In This Issue—*Review of Championship Racing in 1926*

MOTOR AGE

Vol. L
Number 26

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CHICAGO, DECEMBER 30, 1926

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THE car today, because of various refinements, is further ahead of the field than it was a year ago.

Its basic engineering advancements have received the recognition of close imitation by other fine-car builders.

In this connection an excerpt from a recent bulletin issued by Cram's Automotive Reports, the dealer's trade authority, is significant:

"While the majority of new models being placed into production will have only minor body refinements, with improved vision, practically all will be entirely changed in appearance as a result of the lowering of the chassis.

"This has been accomplished in some instances by the introduction of the worm drive; in other cases by a modification of the present drive.

"The change in appearance is so pronounced that even cars produced within the past week will find themselves classed as 'ancient' models."

Every dealer should ponder deeply on the foregoing statements. History is being made right now in the automotive industry.

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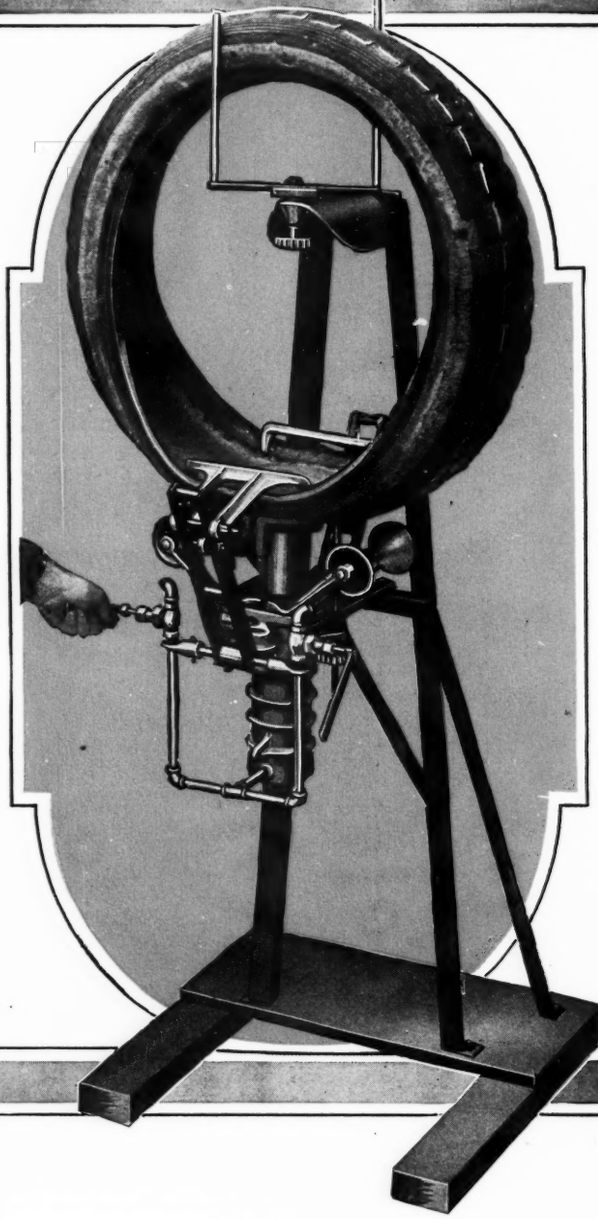

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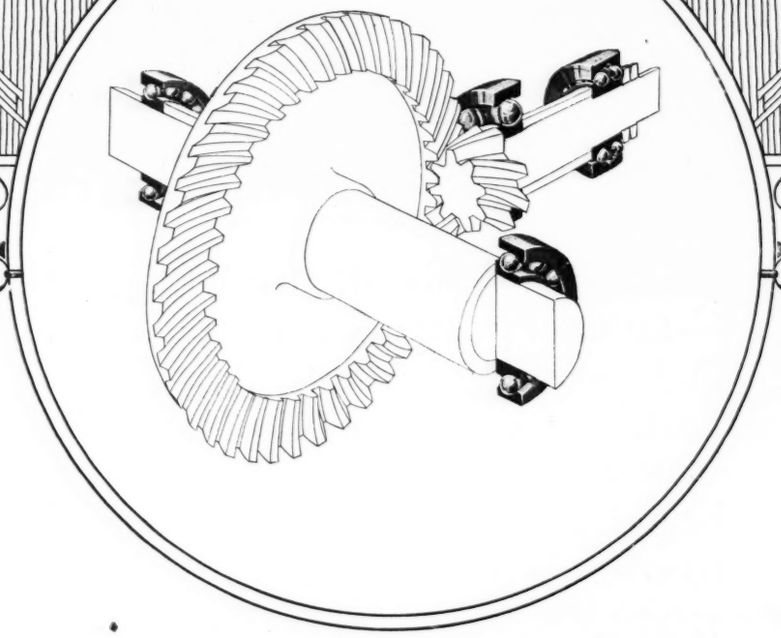

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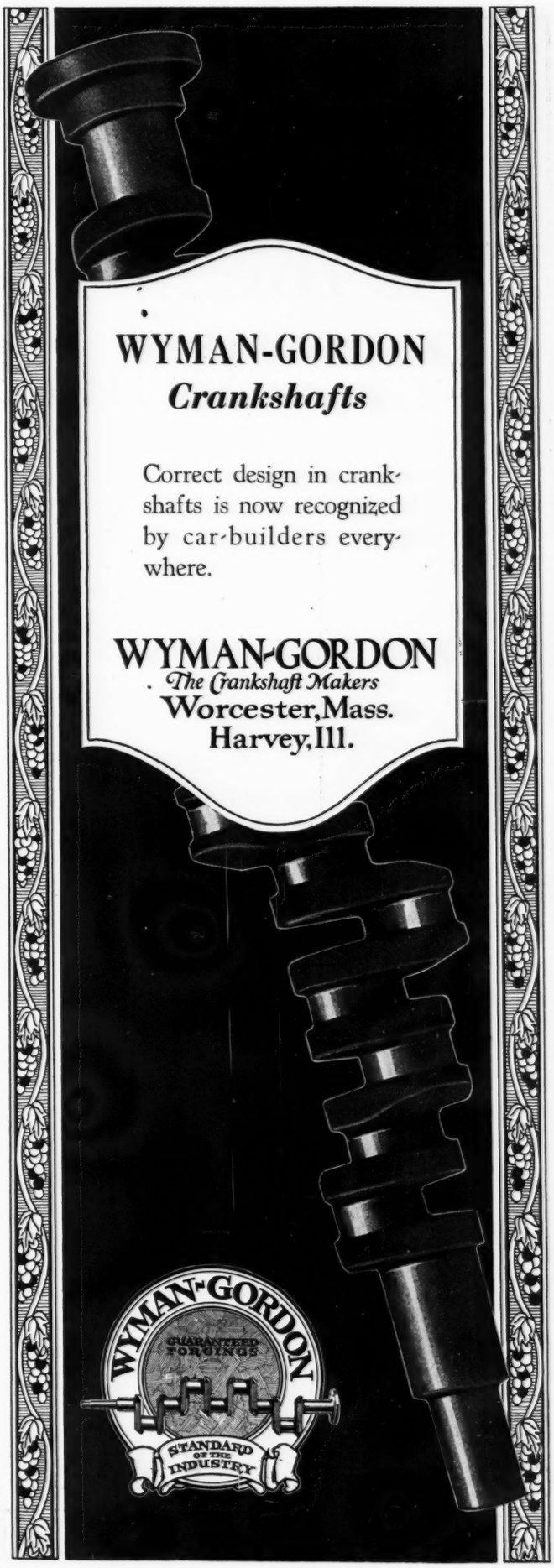


Budd-Michelin is the last word to the Wheel-Wise

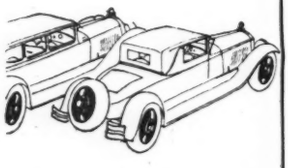
AN automobile wheel seldom hunts trouble—but it can't duck when troubles come along.

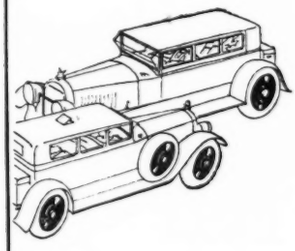
When a skid slaps you up against a curb, or a collision spins you around in your tracks—that's when you need the strength of steel.

That's why increasing thousands of motor car buyers pick the car that has Budd-Michelin Wheels. Wheels of steel—safer wheels!

Wheels that never crack or splinter because steel doesn't crack or splinter. Wheels that never go to pieces because they aren't made of pieces—

Wheels that give a salesman something to talk about—and nothing to apologize for!





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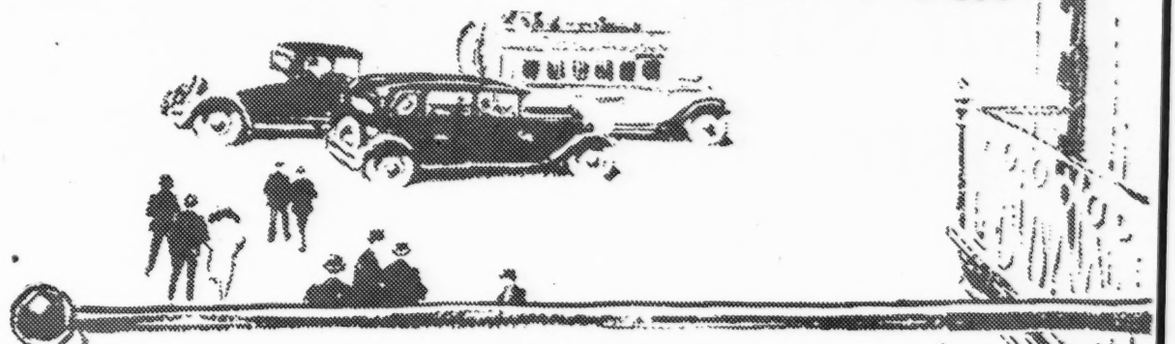
Detroit

ERSKINE SIX

Studebaker's New 2⅓ Litre Car



PARIS TEMPS said it was— "Le Clou du Salon"

(The Hit of the Salon)

in refering to the Parisian introduction of the ERSKINE SIX, Studebaker's new 2-1/3 litre car which will make its American debut at the New York show.

The sensational success of the ERSKINE SIX in Europe forecasts a phenomenal acceptance in this country. Listing at less than a thousand dollars, the ERSKINE SIX will be sold through Studebaker dealers exclusively.

The addition of the ERSKINE SIX to the Studebaker line makes the Studebaker franchise unquestionably the most desirable in the industry.

1927 sales rights for the Studebaker-Erskine line may still be open in your territory. It will cost nothing to inquire. Wire immediately.—The Studebaker Corporation of America, South Bend, Indiana.

See the Erskine Six at the N. Y. Show Space B11-B Second Floor

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Nash Sales Increase—45%
Industry Sales Increase—21%

Above is vividly pictured this year's chapter in the phenomenal record Nash is writing on the pages of motor car history.

During eleven months of 1926 Nash sales and production have risen 45% above the mark set by the same period of 1925—and 1925 till now held the honor of being Nash's biggest year.

For this same stretch of 11 months in 1926 the sales for the entire industry (*including Nash*) rose only 21% above its eleven months' total for 1925.

As a matter of fact Nash 1926 sales and production will total more than 1-3 of all the cars Nash produced from the founding of the Company up to the end of 1925.

Yearly Nash dealers are selling a larger and larger percentage of all the cars sold in their territories.

7-BEARING
Crankshaft Motors
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Power all Nash Light Six, Special Six and Advanced Six Models

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Leads the World in Motor Car Value

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The
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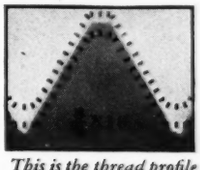
For Empire New Process *Bolts are unbelievably accurate—and* uniformly *accurate—and 20% stronger.*



This is the thread profile of a hardened and ground gauge

And here is the thread profile of an average Empire New Process Bolt

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A large number of forward-looking and far-sighted automobile merchandisers have already foreseen the tremendous advantages of Chrysler's manufacturing and sales policy and have severed associations of many years' standing with other leading manufacturers to ally themselves with Chrysler.

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Your inquiry will be kept in strictest confidence.

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CHRYSLER

Volume L. MOTOR AGE Number 26

CHICAGO, DECEMBER 30, 1926

RACING RECORDS FALL *and* Drivers Pocket Cash *in* Fast 1926 Season

Speediest Race of Year Was Won at 134 *M.P.H. and Slowest at* 95.88 *M.P.H. as New* 91½ *Inch Engines Got Their First Track Trials*

By WILLIAM F. STURM

Facts and Figures of 1926

Number of races (major)	24
Number of miles	3,250
Average distance each race	135.42
Fastest race—M. P. H.	134.091
Slowest race—M. P. H.	95.885
Average winners of all races—M. P. H.	123.91
Longest race—Miles	400
Shortest race—Miles	25
Average number of starters	13.3
Average number of finishers	7.6

Harry Hartz, winner of 1926 A. A. A. automobile racing championship.

THE contest board of the American Automobile Association has officially released its driving championship standing for the year 1926. For months it has been no secret that no jouster in the tournament of speed could unhorse Harry Hartz, of Los Angeles, and his throbbing Miller Special.

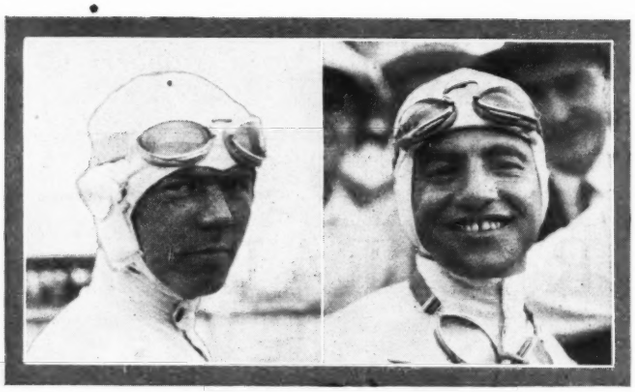
Hartz, in succeeding to the diadem of Peter DePaolo, the 1925 champion, adds one more name to the long line of speed kings native to the sun-kissed state. As far back along the speed trail as 1909 Bert Dingley, of California, wore the wreath, though the method of award in the early years was not the same as today. A year passed and in 1911 Harvey Herrick, another of the sun-favored knights of the wheel, was given the chaplet. Still anxious to keep California's sons in the running, Earl Cooper wore the 1913 and the 1917 crowns. There was a considerable break after Cooper. Then along came the wonderful Jimmy Murphy, he of the little body and the heavy foot and the wonderful disposition, to wear it in 1922 and in 1924.

In the twelve major race meets of the year Hurrying Harry made 19 starts, finished first in 5 races, second in 7, third in 3 and fourth in 2. He neglected to finish in only two races in which he started and failed to start in only one race to which he was eligible on the big time. The races in which Hartz participated ranged all the way from a 25 mile sprint to the 500 mile race at Indianapolis, stopped at 400 because of the heavy rainstorm. In the course of the racing season Lighthorse Harry amassed 2,954 points and coin of the realm in the total sum of $71,100, together with the American Automobile Association championship medal for first place.

Lockhart Finishes Second

Frank Lockhart, of Los Angeles, finished second to Hartz and at one time during the season pressed his fellow-townsman so hard in the race for championship points that it was almost a tossup between the two. Lockhart made 13 starts, won 5 first, 1 second, 2 thirds and 1 fourth in open competition in the big league, not to mention some dirt track wins. Frank and his trusty Miller Special tapped the racing tills for 1,830 championship points and $66,612.49. Of this amount about $10,000 was made on the dirt ovals, a form of amusement in which Hartz did not indulge this year. Frank has in addition the second place championship medal, possession of the Prest-O-Lite silver brick for leading at Indianapolis at 300 miles and the great Wheeler-Schebler trophy cup for leading at 400 miles in the same race. He will retain possession of these for a year.

(*Continued on next page*)



Left: Jumping into championship racing at this year's Indianapolis race, Frank Lockhart won that event and took second place in the A. A. A. field, winning prizes totaling $66,162. Right: DePaolo, last year's champion, who finished third this year

(*Continued from preceding page*)

Peter DePaolo, of Los Angeles, the 1925 champion, finished third in the championship for 1926. Pete made 13 starts, won 3 first, 2 seconds, 2 thirds, 3 fifths, 1 sixth, 1 seventh and 1 eighth. Pete's point total is 1,500 and his receipts $40,187.72, according to the contest board figures. Pete also receives a third place championship medal. He performed in both a Duesenberg Special and a Miller Special in his quest for prizes.

Bennett Hill, of Los Angeles, who objects strenuously to the appellation diminutive, scored 1,043 championship points in his fast flying Miller Special and his bank account was enriched $36,167.85. Hill faced the starter in 19 races, won 2 firsts, 5 seconds, 1 third, 1 fourth, 1 fifth, 3 sixths, 1 seventh and 1 eighth.

On the fifth rung of the ladder Frank Elliott, of Los Angeles, clings, with 742 points scored and money to the tune of $19,850. Frank went the route aboard a Miller Special, with one exception, at which time he was aided and abetted by a Locomobile Junior 8 Special. Frank faced the barrier in 18 races, accounting for 3 seconds, 1 third, 3 fourths, 4 fifths, 2 sixths, 1 seventh and 1 eighth.

Fred Comer has hung his hat on the sixth place peg of the A. A. A. championship hat rack. Fred drove a Miller Special to achieve 659 points and bulge his bankbook $21,700. Comer, as the driver of one of Harry Hartz' cars, started in 18 races, won 1 first, 1 second, 1 third, 4 fourths, 1 fifth, 1 sixth and 1 seventh.

Dave Lewis, who has been racing longer than some of the present drivers have been on earth, slid into seventh place in the A. A. A. point column with 645 and $22,334.29. Dave drove a front-drive Miller throughout the year. He started 15 times, won 3 firsts, 1 third, 1 fourth and 1 fifth.

Batten Started in 15 Races

Norman Batten, former dirt track star of the New England states, now living in Brooklyn, Miller Specialed his way into eighth place on the roll of honor, his point total being 620 and his money $19,400. Batten started in 15 races, won 1 first, 1 second, 1 third, 1 fourth, 1 sixth, 1 seventh and 1 eighth.

Pete Kreis, of Knoxville, Tenn., a comparative newcomer in the speed game, demonstrated his metal in the racing crucible by finishing in ninth place, with 590 points and $15,150. Pete drove a conventional Miller Special the first of the year, but switched to a front-drive of the same make with the season about half over. He got away with the field in 15 races, won 2 seconds, 1 fourth, 1 fifth and 1 seventh.

RACING RECORDS FALL CASH IN FAST

Earl DeVore, of Altoona, Pa., appearing on racing programs since 1909, gained tenth place through the medium of a Nickel Plate and Miller Special. His points are 585 and his kale $19,650. DeVore made 12 starts, won 1 first, 1 fourth and 1 fifth. A whale of a driver, motor trouble dogged Earl's steps throughout almost the whole year.

After these ten high money makers come the rest of the A. A. A. racing clan. Their position is shown in one of the tables. The point system of awards was born of an effort to give the drivers the credit that was their due. It is based on a system of awarding the winner of a race twice as many points as there are miles in the race. From first place on down to tenth the points are graded and beyond tenth no points are given. In a 250 mile race the first man receives 500 points, the second, 260; the third, 140; fourth, 80; fifth, 50; sixth, 35; seventh, 25; eighth, 15; ninth, 10; tenth, 5. Consistency is the measuring stick for high championship standing as a rule.

Obviously if a driver participates in fewer races than another pilot, he lessens his chance at the championship just that much, and reduces his ability to earn money in the same degree. Time was when the A. A. A. arbitrarily designated only a few races as championship events. It still does this, but makes all competitive races on the paved speedways point races, provided the entries are not invitational, and thus restrictive. Fresno is the one board track where points are not awarded. In its two races yearly three or four of the popular drivers are invited and the field is limited to them.

A study of the various tables with this article will enable the reader to arrive at some definite conclusions of his own.

Hartz a Speedy Driver

Hartz combines in rare degree three qualities that have made him successful this year. He is the best man mechanically on racing cars today, his car has had the speed to win races, and Hartz has kept it in striking distance of first place, so that when the opportunity presented he could send it after the bacon. Add to these requisites, mechanical perfection and speed, Hartz' driving ability and the trilology is complete. Other drivers may have equaled Hartz in one or two of these qualities, but not in all three of them. It was the combining of them that made Hartz champion.

Summary of 1926 Championship Races

Race	Length	Speed	Starters	Finishers
Miami-Fulford, 2/22	300	129.295	18	9
Los Angeles, 3/21	250	131.295	18	11
Atlantic City, 5/1	300	134.091	16	9
Charlotte, 5/10	250	120.09	16	9
Indianapolis, 5/30	400	95.885	28	13
Altoona, 6/12	250	112.435	17	10
Salem, 7/5	50	128.251	8	5
	200	116.373	18	9
Atlantic City, 7/17	60	128.66	11	6
	60	120.75	10	3
	60	124.74	6	5
	120	123.41	13	8
Charlotte, 8/23	25	128.93	8	5
	25	125.32	7	5
	50	122.55	9	5
	150	120.88	11	6
Altoona, 9/18	250	116.38	18	10
Salem, 10/12	25	129.977	18	14
	25	130.39	13	8
	200	123.26	17	8
Charlotte, 11/11	25	132.41	6	5
	25	127.02	6	6
	50	129.35	12	7
	100	122.04	9	6
Average	135.42	123.91	13.2	7.6

AND DRIVERS POCKET 1926 SEASON

Had Frank Hartz started the speedway racing season with the rest of the drivers his story and that of Harry Hartz might have been different. The doughty Frank got into the game only when the other drivers had raced at Fulford, Los Angeles, Atlantic City and Charlotte. Were his point record to be based on the number of meets in which he participated, it would be a much better record than his second place position now shows. That he did not start in the first four races was due to the fact that he had not yet entered the speedway driving ranks.

Peter DePaolo started the year with his Duesenberg Special that had carried him to victory in the championship in 1925. It was running like a railroad watch is alleged to run. He won the Fulford 300 mile race, was second at Los Angeles in a 250 mile event, failed to register at Charlotte and then came to Indianapolis. Here came the change from the 122 cubic inch car that had served him so faithfully to the untried 91½ inch motor. It just wasn't Duesenberg's year when the liter and a half jobs came on to the stage. Pete sunk with the other Duesenberg drivers, and made a sorry showing from May 31 on.

Figures compiled by Val Haresnape, A. A. A. contest board secretary, show that there were twelve major race meets, with a total of 24 events. In this computation no note is taken of the two invitational meets at Fresno, nor of the various high grade dirt track meets. There was 3,250 miles of racing and the average distance for each race was 135.42. The fastest race was won at 134.091 miles an hour, and the slowest at 95.885 miles an hour. The longest race was 400 miles and the shortest 25 miles. The average miles an hour of all winners was 123.91. The average number of starters in all races was 13.3 and the average number of finishers 7.6. The first ten drivers in the championship standing won a total of $331,144.

The year 1926 saw the continuation of racing with front wheel drives begun by Dave Lewis at the Indianapolis race in 1925, when he won second place with one of them. Dave was joined by Earl Cooper in 1926 with a sister front wheeler, and in September Pete Kreis and Leon Duray entered the lists with the same type car. The performance of the tractor type racer has been highly creditable, as they have won several first and Lewis holds the 100 mile record with one. The year 1927 is sure to see the front wheel racer in increasing numbers. All racing cars of this type campaigning the big speedways have been built by Harry Miller.

91½ Inch American Records All Made in 1926

Distance	Driver	Car	Time	Average	Place	Date
5	Bennett Hill	Miller	2:18.07	130.369	Charlotte	11/11/26
10	Bennett Hill	Miller	4:34.14	131.320	Charlotte	11/11/26
25	Frank Lockhart	Miller	11:19.73	132.405	Charlotte	11/11/26
50	Harry Hartz	Miller	23:11.56	129.351	Charlotte	11/11/26
100	Frank Lockhart	Miller	47:24.72	126.550	Salem	10/12/26
150	Frank Lockhart	Miller	1:11:28.56	125.916	Salem	10/12/26
200	Harry Hartz	Miller	1:37:21.24	123.261	Salem	10/12/26
250	Frank Lockhart	Miller	2:08:53.33	116.379	Altoona	9/18/26
300	Frank Lockhart	Miller	3:07:00.75	96.25	Indianapolis	5/31/26
350	Frank Lockhart	Miller	3:38:44.87	96.13	Indianapolis	5/31/26
400	Frank Lockhart	Miller	4:10:17.95	95.885	Indianapolis	5/31/26

OTHER RECORDS BROKEN 1926

Dirt Track (flat) Competitive.					
10 Mile	DePalma	Miller 122 in.	7:24.40	Syracuse	9/4/26
Dirt Track (flat) Exhibition.					
1 Mile	DePalma	Miller 122 in.	:41.38	Syracuse	9/4/26

The mile record had withstood all attacks since 9/15/23, when Milton set it :42.28, notwithstanding that $1,000 was annually offered for its breaking.

Left: Bennett Hill, winner of fourth place in the 1926 championship contest, took $36,000 in prizes. Right: Frank Elliott, a regular on the fast tracks, was a consistent driver and finished fifth in the 1926 championship

Contest Between Miller and Duesenberg

The only other builder of racing cars to enter into competition with Miller in 1926 was Fred Duesenberg, though he confined his efforts to the rear wheel drive. His 122 cubic inch engines scintillated in the early part of the year, but the 91½ inch Duesenberg engines were a distinct disappointment. Mr. Duesenberg, however, made a distinct contribution to engineering knowledge by building a two cycle racer which ran in the Indianapolis race satisfactorily until it skidded on the rain soaked track and hit the safety wall, putting it out of the competition.

It was with the marvelous 122 inch engines that many free for all competitive records were established. With one exception, the American free for all records for all recognized distances were eclipsed. With the engines developing well up toward 200 horsepower, the skilled pilots who campaign our speedways tore round and round the timber tracks in heavy traffic, as it were, smashing previous marks right and left.

Bennett Hill opened the ball at Culver City track in the 250 mile race on March 21, when he oozed his Miller Special around the first five miles for a new record. He covered the five in 2:10.50, for an average of 137.931 miles an hour. He finished the 250 for an average of 131.295, which constituted a new record, though it did not long remain so.

It was in this same race that Dave Lewis raised the 100 mile mark to 133.709 miles an hour. Hill's speed of 131.54 for the 200 miles also cracked the record for that distance which had been made on the new Fulford, Fla., speedway earlier in the year.

From March 21 on record shattering continued, though at the end of the year when Val Haresnape, the most efficient secretary the contest board ever had, closed his books for 1926, Hill still held the five mile and Duray the ten mile, made in the Culver race.

It was at the inaugural race at the Atlantic City mile and a half board course on May 1, that records really went by the boards. Peter DePaolo had the race well in hand with only five or six laps to go. Right on his tail came Harry Hartz, ready at any minute to challenge Pete's lead. Suddenly the speed of Pete's Duesenberg Special dropped off. Hartz, quick to seize the advantage, zoomed past and finished first, having traversed the 300 miles in 2:14:14.18, at an average of

(*Continued on next page*)

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134.091 miles an hour, the fastest time ever made in competition for this distance, regardless of piston displacement. Pete discovered that his shifting lever would not stay in high gear after coasting part of a lap. That coast spelled defeat. He got into second gear and finished a minute and a half behind Hartz.

$331,144 in Prize Money to 10 Leading Drivers 1926

Place	Date	Hartz	Lockhart	DePaolo	Hill	Elliott	Comer	Lewis	Batten	Kreis	DeVore
Miami-Fulford	2/22	$ 6,900	†	$12,000	$ 2,000	$ 2,500	$ 1,500	$ 1,500	†	$ 1,500	$ 1,800
Los Angeles	3/21	2,500	†	5,000	10,000	1,300	750	3,500*	850	850	750
					6,000*						
Atlantic City	5/1	12,000	†	6,000	750	750	1,250	†	750	2,100	750
Charlotte	5/10	5,000	†	750	750	1,300	2,500	†	1,750	950	10,000
Indianapolis	5/31	10,000	20,000	3,590	607	2,200	4,000	585	1,800	†	†
		3,900	15,600								
Altoona	6/12	750	†	850	1,100	950	1,750	10,000	5,000	†	750
Salem	7/5	1,000	†	3,500	4,000	1,550	1,400	750	900	†	750
Atlantic City	7/17	7,500	750	750	2,400	1,200	4,900	750	3,800	†	750
		6,300									
Charlotte	8/23	1,600	7,600	750	1,450	3,500	750	1,000	750	†	1,200
Altoona	9/18	1,750	10,000	†	950	850	1,100	750	750	5,000	750
Salem	10/12	9,200	800	750	1,900	1,100	750	750	750	4,000	750
Charlotte	11/11	3,600	1,000	1,900	1,100	2,600	1,050	1,800	†	750	†
Invitational meets.		None	1,187	3,037	3,155	None	None	898	None	None	None
Dirt Track meets.		None	9,675	2,300	None	None	None	None	2,300	None	1,400
TOTALS		$71,100	$66,612	$40,187	$36,162	$19,850	$21,700	$22,333	$19,400	$15,150	$19,050

Grand Total—Ten Leading Drivers—$331,144.00.
†—Did Not Start.
*—All lap prize money.

In this race Bob McDonogh nonchalantly ripped four records to smithereens. Putting his Miller Special out in front early in the race, he covered the 25 miles in 10:58.90, at 137.426 miles an hour; the 50 miles in 22:04.59, or 135.890 miles an hour. Lewis' March-made 100 mile mark withstood the assault, but the 150 mile mark DeVore and his Nickel Plate Special proceeded to put at 1:07:82.41 or 133.716 miles an hour. Bob McDonogh came through at 200 miles, covering the distance in 1:30:39.11, for an average of 132.375 miles an hour. The canny Scot likewise dittoed his performance of record busting by doing the 250 miles in 1:51:53.03, or 134.068 miles an hour. After which Bob proceeded to break his windmill and retired to a seat on the pit wall to watch the world go by.

The year's close sees Gil Anderson's free for all mark of 102.56 miles an hour for the 350 miles still a record. It comes up from out the misty past of October 9, 1915, Sheepshead Bay. Lewis still holds the 400 mile mark, made at Indianapolis on May 30, 1925, with his spanking new front drive Junior 8 Special. Dave averaged 101.16 miles an hour on that eventful day. Pete DePaolo and his Duesenberg hold the 500 mile free for all with the mark of 101.13 set at Indianapolis in 1925. Incidently Pete also has the 450 mile record of 101.16 made in the same race.

With the advent of the 91½ inch cars at Indianapolis on May 31 trouble began in large gobs. Where the 122 inch engines turned up around 5,700 in exceptional cases, it became necessary for racing car designers to plot out speeds of at least 1,000 revs higher for their smaller brethren. This speed brought on two or three bad attacks of engine illness. It made a great change in valve and supercharger operation. The superchargers were compelled to buckle down and turn up around 35,000 where they used to consider it a day's work to whip around at 22,000. In plenty of cases they rebelled at the increased work, showing their displeasure by spitting out their impellor blades in small pieces, and making chowder of their gear trains. What with swallowing valves and cracking up superchargers, the drivers had rather a merry time. But at this writing, as the country correspondent would say, the drivers have the situation well in hand.

Pace Slowed Up by Small Cars

Comparisons are still somewhat as Shakespeare is reported to have said they were. Instead of the 133.709 miles an hour of Dave Lewis in a 122, we have the 126.550 of Frank Lockhart in the 91½. for the 200 mile mark of 132.375 made by Bob McDonogh and his lightning 122, we have the 123.261 of Hartz' 91½.

But the speed of the newest of the racing engines is rising gradually, and another year may see their power increasing from the 154 horses with which they are alleged to have started life up somewhat nearer the 196 and 122 inch engines are said to have possessed before they quit the speedway. With an increased power development will come increased speed. As the troubles are licked, slow speed because of these troubles will be eliminated. The optimist well may feel comforted by the thought that eventually mayhap some of the 122 inch records may fall in the assaults of the 91½ inches—eventually, that is, but not now.

In passing we chronicle the fact that the Indianapolis race was stopped short of its 500 mile span for the first time in its history. One Jupe Pluv insisted on the change and backed up his insistence by what the poets would call a copious deluge before the race had been on its way two hours. In spite of this warning the officials let him have his way only for an hour and then tried it again. A couple of hours the cars hummed then Jupe again squeezed the sky sponge in real earnest, compelling the waving of the stop flag at 400. The average was 95.885 miles an hour, as opposed to 90.95 in 1923, when the 122 inch motors were first used in competition.

A Triumph for Tire Builders

This year's racing brought to the fore the sturdiness that is woven into the tires used on racing cars. At Atlantic City Hartz and DePaolo whirled through the 300 miles without a change. While this is an outstanding example, it is not an isolated one. In the following instances I mention only the drivers finishing in the top positions in the races, though in each case there were several others.

Bennett Hill made no tire changes at Culver City in March. Neither did DePaolo and Hartz, who finished

Right: Fred Comer, winner of sixth place. Left: Dave Lewis, an old-timer, pushed a front-drive Miller around the tracks for seventh place in the championship standing

second and third. At Charlotte on May 10 the first two finishers made no tire stops. At Indianapolis on May 31, Lockhart, the winner, and Woodbury, who finished third, did not stop to retire. First and second place winners at Altoona on June 12, Dave Lewis in his front drive and Norman Batten, made no tire changes. In the 200 mile race at Salem on July 5, the first three cars to finish made no tire replacements. At Charlotte on August 23 only one tire was changed in the 250 miles of sprint racing, and that one was due to a splinter. Altoona got by the September 18 race of 250 miles without the first and second man having to worry about his tires. Again at Salem on October 12 the first six cars came in from a 200 mile race without changing a shoe.

The fact that one of the great tire factories is using the race track as an extension of its laboratory has been of inestimable value in speeding up the averages and no doubt in conserving the lives of the boys who ride hell-bent for leather to make a holiday for the spectators.

Ralph DePalma, one-time racing idol of America, has driven only dirt tracks this year, and these only when he could get away from his duties with the Studebaker Corporation. On the dirt he demonstrated that his hand had not lost its cunning nor his foot its lead. Ralph circled the mile horse track at the New York State Fair Grounds at Syracuse in 41.38 to supplant Tom Milton's record of 42.28 made made in September of 1923. Ralph also set a ten mile record of 7:24.40, an average of 81 miles an hour.

American Free For All Records

Distances	Driver	Car	Time	Average	Track
5	Hill	Miller	2:10.50	137.931	Los Angeles
10	Duray	Miller	.4:24.60	136.054	Los Angeles
25	McDonogh	Miller	10:58.90	137.426	Atlantic City
50	McDonogh	Miller	22:04.59	135.890	Atlantic City
100	Lewis	Miller F D	44:52.40	133.709	Los Angeles
150	DeVore	Miller	1:07:82.41	133.716	Atlantic City
200	McDonogh	Miller	1:30:39.11	132.375	Atlantic City
250	McDonogh	Miller	1:51:53.03	134.068	Atlantic City
300	Hartz	Miller	2:14:14.18	134.091	Atlantic City
*350	Anderson	Stutz Spl.	3:24:42.99	102.56	Sheepshead Bay
400	Lewis	Junior 8	3:06:30.19	101.16	Indianapolis
500	DePaolo	Duesenberg	4:56:39.46	101.13	Indianapolis

*Made with 300 Inch Class. All others also constitute records for 122 Inch Class.

Milton Quits the Throttle

Tommy Milton vanished this year from the speed paths for all time. He now is associated with Carl G. Fisher, one time president and large owner of the Indianapolis Motor Speedway and the developer of Miami Beach and the newer project, Montauk Beach, Long Island. Milton, in the ten years he raced over the speedways has been one of America's outstanding drivers. He finished fifth in the championship standing in 1919, second in 1920, first in 1921, second in 1922, fifth in 1923, fourth in 1924 and second in 1925. He won at Indianapolis twice, 1921 and 1923, being the only driver to do it. In addition to his 100 mile dirt track record, 80 M.P.H., he still has the official American beach record of 156.04 miles an hour in a mile trial, made on April 19, 1920. Only J. G. Thomas, of England, has beaten Milton's straightaway record. He raised the American speed champion's figure on April 28, 1926, to a mean average (i. e., average time for both ways of the course) of 170.62 miles an hour, though with a much larger displacement car.

Left: Norman Batten, winner of eighth place on the A. A. A. roll of honor. Right: Pete Kreis, winner of ninth place, comes from Knoxville, Tenn. In Circle: Earl DeVore placed tenth in the A. A. A. championship contest for 1926

Foreign competition was at a low ebb in speedway racing circles for 1926. E. A. Eldridge, well known London sportsman, entered two Eldridge Specials in the Indianapolis race on May 31. Both of them were of four-cylinder design. Eldridge drove one of the cars himself and the second was piloted by W. Douglas Hawkes, also of London, who had raced a Bentley at Indianapolis in 1922, finishing thirteenth. The cars were not well suited to American racing conditions. Eldridge went out in the forty-sixth lap of the 200-lap race and Hawkes in the ninety-second.

Albert H. Schmidt, a French engineer resident in the United States, built up two Schmidt Specials in France for entry at Indianapolis and other tracks. A sister car of these two also was brought over by Albert Guyot, as a Guyot Special. The Schmidt Specials did not start in the race, though they were at the track, and the Guyot Special went out in the ninth lap. Guyot drove his own car. He previously had finished a Sunbeam fourth in the 1913 race, a Delage third in 1914, a Ballot fourth in 1919 and a Duesenberg sixth in the 1921 event.

Eldridge took his cars to Altoona and Salem, but they were not successful there, failing to qualify. At the first race held on the Atlantic City board speedway on May 1, two Bugattis were entered, but they, too, were ill suited for American racing and did not finish racing again in 1927.

Captain John Duff, of England, well known both in his own island and on the continent, was the most successful of the foreign drivers. He came to America in March to look around and drove his first race at Indianapolis, finishing an Elcar Special in ninth place. At Altoona on June 12 he placed his Elcar Special in third place in the 250 mile event carded there. Duff ran into bad luck at Salem on July 5, his car being wrecked and Duff himself injured. An injury to his eye compelled him to keep off the tracks for the remainder of the year on the doctor's orders. In the fall of the year Duff moved his wife and children from England and will live in Los Angeles. He probably will take up the race, though one of them started.

The year 1926 lies behind.

The new 1927 is ahead. What it holds for racing may only be surmised.

On the following two pages appears a summary of all the championship and sanctioned automobile races run in 1926 under the jurisdiction of the Contest Board of the American Automobile Association.

Summary of 1926 Speedway and Major Dirt Track Races

Championship Races

MIAMI 300 MILE RACE, MIAMI, FLA., FEB. 22, 1926

Number starters, 17. Number to finish, 8. Total prize money, $29,300.

Car and Driver	Place	Time	M. P. H.	Prizes
Duesenberg, DePaolo	1	2:19:12.95	129.295	$12,000
Miller, Hartz	2	2:20:44.28	127.89	6,000
Miller, McDonogh	3	2:23:02.21	125.84	3,000
Miller, Elliott	4	2:25:10.44	123.98	2,500
Miller, Hill	5	2:27:04.58	122.38	1,800
Miller, DeVore	6	2:29:28.85	120.41	1,600
Duesenberg, Jones	7	Flagged 235th lap		1,400
Miller, Shattuc	8	Flagged 221st lap		1,000
Miller, Evans		Flagged 216th lap		

Also started: Miller, Duray; Miller, Kreis; Miller, Wonderlich; Miller, Meyers; Miller, Comer; Duesenberg, Milton; Junior 8, Hepburn; Miller, Lewis; Miller, Cooper.

LOS ANGELES 250 MILE RACE, LOS ANGELES, MARCH 21, 1926

Number starters, 16. Number to finish, 11. Total prize money, $25,750.

Car and Driver	Place	Time	M. P. H.	Prizes
Miller, Hill	1	1:54:14.8	131.295	$10,000
Duesenberg, DePaolo	2	.....	.....	5,000
Miller, Hartz	3	.....	.....	2,500
Duesenberg, Hearne	4	.....	.....	1,750
Miller, Elliott	5	.....	.....	1,300
Junior 8, Hepburn	6	.....	.....	1,100
Miller, Evans	7	.....	.....	950
Miller, Batten	8	.....	.....	850
Boyle, Woodbury	9	.....	.....	800
Miller, Duray	10	.....	.....	750
Miller, Kreis	11	.....	.....	750

Also started: Miller, McDonogh; Miller, F. D., Lewis; Miller, Comer; Miller, DeVore; Miller, Shattuc.

ATLANTIC CITY 300 MILE RACE, ATLANTIC CITY, N. J., MAY 1, 1926

Number starters, 16. Number to finish, 9. Total prize money, $30,000.

Car and Driver	Place	Time	M. P. H.	Prizes
Miller, Hartz	1	2:14:14.18	134.191	$12,000
Duesenberg, DePaolo	2	2:15:38.50	132.701	6,000
Miller, McDonogh	3	2:16:30.45	131.860	3,000
Miller, Kreis	4	2:17:05.09	131.305	2,100
Miller, Hepburn	5	2:23:36.45	125.341	1,600
Duesenberg, Hearne	6	2:28:44.58	121.014	1,400
Miller, Comer	7	Flagged 188th lap		1,250
Duesenberg, Evans	8	Flagged 146th lap		1,100
Miller, Shattuc	9	Flagged 145th lap		800
Unplaced	..	.....	.....	750

Also started: Miller, Elliott; Bugatti, DeRachewesky; Miller, Batten; Boyle Spl., Woodbury; Duesenberg, Jones; Miller, DeVore; Miller, Hill.

CHARLOTTE 250 MILE RACE, CHARLOTTE, N. C., MAY 12, 1926

Number starters, 16. Number to finish, 9. Total prize money, $25,000.

Car and Driver	Place	Time	M. P. H.	Prizes
Miller, DeVore	1	2:04:54.50	120.089	$10,000
Miller, Hartz	2	2:05:32.88	119.476	5,000
Miller, Comer	3	2:07:02.13	118.077	2,500
Miller, Batten	4	2:08:12.27	117.000	1,750
Miller, Elliott	5	2:08:31.73	116.706	1,300
Miller, Meyer	6	Flagged 188th lap		1,100
Duesenberg, Kreis	7	Flagged 183rd lap		950
Miller, Shattuc	8	Flagged 154th lap		850
Duesenberg, Jones	9	Flagged 115th lap		800
Unplaced	..	.....	.....	750

Also started: Duesenberg, DePaolo; Miller, Hearne; Junior 8, Hepburn; Miller, Evans; Miller, McDonogh; Miller, Hill; Boyle Spl., Woodbury.

INDIANAPOLIS 500 MILE RACE, INDIANAPOLIS, IND., MAY 31, 1926

(Flagged at 400 miles account of rain)

Number starters, 28. Number to finish, 13. Total prize money, $50,000.

Car and Driver	Place	Miles	Time	M. P. H.	Prizes
Miller, Lockhart	1	400	4:10:17.95	95.885	$20,000
Miller, Hartz	2	395	4:10:50.49	94.481	10,000
Boyle Spl., Woodbury	3	395	4:11:46.55	94.131	5,000
Miller, Comer	4	387½	4:11:49.99	92.323	3,500
Duesenberg, DePaolo	5	382½	4:10:42.90	91.544	3,000
Miller, Elliott	6	380	4:10:46.64	90.917	2,200
Miller, Batten	7	377½	4:10:53.91	90.275	1,800
Miller, Hepburn	8	377½	4:11:59.68	89.882	1,600
Elcar, Duff	9	367½	4:11:51.10	87.551	1,500
Miller, Shafer	10	365	4:11:26.66	87.096	1,400
Miller, Gulotta	11	355	4:11:20.26	84.746	.....
Miller, Hill	12	340	4:11:38.48	81.067	.....
Abell, Houser	13	255	4:10:58.32	60.962	.....

Also started: Guyot Spl., Guyot; Miller, Shattuc; Miller, MacDougall; Hamlin Spl., McCarver; Miller, Lecklider; Loco. Jr., Duray; Miller, Ellingboe; Schmidt Spl., Nemesh; Schmidt Spl., Corum; Eldridge Spl., Eldridge; Duesenberg, Jones; Loco. Jr., Durant; Miller, Cooper; Miller, Lewis; Eldridge Spl., Hawkes.

ALTOONA 250 MILE RACE, ALTOONA, PA., JUNE 17, 1926

Number starters, 16. Number to finish, 10. Total prize money, $25,000.

Car and Driver	Place	Time	M. P. H.	Prizes
F. D. Miller, Lewis	1	2:13:24.61	112.435	$10,000
Miller, Batten	2	2:13:28.11	112.386	5,000
Miller, Duff	3	2:16:24.98	109.957	2,500
Miller, Comer	4	2:16:40.45	109.750	1,750
Loco. Jr. 8, Hearne	5	2:17:06.45	109.403	1,300
Miller, Hill	6	2:17:19.52	109.229	1,100
Miller, Elliott	7	2:26:24.06	102.458	950
Duesenberg, DePaolo	8	2:26:48.20	102.177	850
Miller, Hepburn	9	Flagged		800
Duesenberg, Jones	10	Flagged		750

Also started: Miller, O'Brine; Miller, DeVore; Loco. Jr., Fengler; Miller, Cooper; Boyle Spl., Woodbury; Miller, Hartz.

SALEM, 200 MILE AND 50 MILE EVENTS, SALEM, N. H., JULY 5, 1926

(Total Prize Money, $25,000)

200 Mile—Number starters, 18. Number to finish, 9. Prize money $21,000.

Car and Driver	Place	Time	M. P. H.	Prizes
Miller, F. D., Cooper	1	1:42:56.95	116.373	$8,000
Miller, Hill	2	1:43:43.08	115.670	4,000
Duesenberg, DePaolo	3	1:44:19.85	115.019	2,000
Miller, Comer	4	1:46:37.21	112.549	1,400
Miller, Elliott	5	1:48:14.67	110.861	1,100
Miller, Batten	6	1:54:29.31	104.816	900
Miller, Morton	7	1:54:53.28	104.509	800
Miller, Shattuc	8	Flagged 156th lap		700
Miller, Shafer	9	Flagged 146th lap		600

Also started: Miller, Hauser; Miller, O'Brien; Duesenberg, Evans; Miller, F. D. Lewis; Loco. Spl., Hearne; Elcar Spl., Duff; Loco. Spl., Fengler; Duesenberg, Jones; Miller, McDonogh.

50 Mile—Number starters, 8. Number to finish, 5. Prize money, $4,000.

Car and Driver	Place	Time	M. P. H.	Prizes
Duesenberg, DePaolo	1	23:23.52	128.251	$1,500
Miller, Hartz	2	23:57.87	125.187	1,000
Miller, Hepburn	3	25:02.90	119.767	700
Miller, Elliott	4	25:16.95	118.659	450
Miller, Shattuc	5	Flagged 39th lap		350

Also started: Miller, Shafer; Miller, F. D., Cooper; Miller, DeVore.

ATLANTIC CITY, THREE 60 MILE HEATS, ONE 120 MILE EVENT, ATLANTIC CITY, N. J., JULY 26

(Total Prize Money, $38,000)

First heat—Number starters, 11. Number to finish, 6. Prize money, $6,000.

Car and Driver	Place	Time	M. P. H.	Prizes
Miller, Hartz	1	27:58.85	128.66	$2,500
Miller, Hill	2	28:13.13	127.57	1,200
Loco. Jr., Hearne	3	28:38.96	125.66	800
Miller, Lockhart	4	28:44.18	125.28	600
Miller, Shafer	5	Flagged 39th lap		500
Duesenberg, Evans	6	Flagged 37th lap		400

Also started: Duesenberg, McDonogh; Miller, Eldridge; Woodbury, Boyle Spl.; Miller, Shattuc; Miller, Lewis.

Second Heat—Number starters, 10. Number to finish, 3. Prize money, $6,000.

Car and Driver	Place	Time	M. P. H.	Prizes
Miller, Batten	1	29:48.75	120.75	$2,500
Miller, Elliott	2	30:53.85	116.51	1,200
Duesenberg, Jones	3	Flagged 38th lap		800

Also started: Miller, O'Brien; Miller, Comer; Loco. Spl., Fengler; Miller, Hepburn; Miller, F. D. Cooper; Miller, DeVore; Duesenberg, DePaolo.

Third Heat—Number starters, 6. Number to finish, 5. Prize money, $6,000.

Car and Driver	Place	Time	M. P. H.	Prizes
Miller, Comer	1	28:51.58	124.74	$2,500
Miller, Shattuc	2	29:07.60	123.60	1,200
Boyle, Woodbury	3	29:20.73	122.67	800
Loco. Jr., Fengler	4	30:49.94	116.76	600
Miller, F. D., Cooper	5	Flagged 27th lap		500

Also started: Miller, Hepburn.

120 Mile Event—Number starters, 13. Number to finish, 8. Total prize money, $12,000.

Car and Driver	Place	Time	M. P. H.	Prizes
Miller, Hartz	1	58:20.50	123.41	$5,000
Miller, Comer	2	.....	.....	2,400
Miller, Batten	3	.....	.....	1,300
Miller, Shafer	4	.....	.....	1,200
Boyle, Woodbury	5	.....	.....	1,100
Loco. Jr., Fengler	6	.....	.....	1,000
Duesenberg, Evans	7	.....	.....	.....
Miller, Elliott	8	.....	.....	.....

Also started: Miller, Shattuc; Miller, F. D., Cooper; Miller, Hill; Miller, Lockhart; Duesenberg, Jones.

CHARLOTTE, TWO 25 MILE, ONE 50 MILE, AND ONE 150 MILE EVENTS, CHARLOTTE, N. C., AUG. 23

(Total Prize Money, $25,000)

First 25 Mile Sprint—Number starters, 8. Number to finish, 5. Prize money, $2,500.

Car and Driver	Place	Time	M. P. H.	Prizes
Miller, F. D., Cooper	1	11:38.15	128.930	$1,000
Miller, Lockhart	2	11:38.30	128.884	600
Miller, McDonogh	3	11:51.38	126.769	400
Miller, Elliott	4	12:26.88	125.82	300
Miller, Batten	5	Flagged		200

Also started: Loco. Spl., Fengler; Miller, Comer; Miller, DePaolo.

Second 25 Mile Sprint—Number starters, 7. Number to finish, 5. Prize money, $2,500.

Car and Driver	Place	Time	M. P. H.	Prizes
Miller, F. D., Lewis	1	11:58.16	125.320	$1,000
Miller, Hill	2	12:29.22	120.125	600
Miller, Hartz	3	12:34.48	119.287	400
Miller, Shattuc	4	12:34.78	119.240	300
Boyle Spl. Woodbury	5	12:41.78	118.190	200

Also started: Miller, DeVore; Loco. Spl., Hearne.

50 Mile Event—Number starters, 9. Number to finish, 5. Total prize money, $5,000.

Car and Driver	Place	Time	M. P. H.	Prizes
Miller, Lockhart	1	24:28.80	122.549	$2,000
Miller, Hartz	2	25:06.93	119.448	1,200
Boyle Spl., Woodbury	3	25:16.93	118.699	700
Miller, Elliott	4	Flagged 39th lap		500
Miller, Shattuc	5	Flagged 32nd lap		400

Also started: Miller, Cooper; Duesenberg, Jones; Miller, Batten; Miller, McDonogh.

150 Mile Event—Number starters, 11. Number to finish, 6. Total prize money, $15,000.

Car and Driver	Place	Time	M. P. H.	Prizes
Miller, Lockhart	1	1:14:27.30	120.878	$5,000
Miller, Elliott	2	1:17:16.45	116.468	2,750
Loco. Spl., Hearne	3	1:17:49.00	115.755	1,750
Miller, DeVore	4	1:20:37.36	111.631	1,200
Miller, Shattuc	5	1:25:59.91	104.652	1,000
Miller, Hill	6	Flagged 107th lap		850

Also started: Duesenberg, Jones; Duesenberg, Evans; Miller, Batten; Boyle Spl., Woodbury; Miller, Lewis.

ALTOONA 250 MILE RACE, ALTOONA, PA., SEPTEMBER 18, 1926

Number starters, 18. Number to finish, 10. Total prize money, $25,000.

Car and Driver	Place	Time	M. P. H.	Prizes
Miller, Lockhart	1	2:08:53.33	116.379	$10,000
Miller, F. D., Kreis	2	2:10:14.83	115.165	5,000
Miller, F. D., Duray	3	2:10:42.04	114.766	2,500
Miller, Hartz	4	2:11:59.99	113.636	1,750
Duesenberg, McDonogh	5	2:13:09.06	112.654	1,300
Miller, Comer	6	2:15:55.25	110.358	1,100
Miller, Hill	7	2:16:11.25	110.142	950
Miller, Elliott	8	2:20:29.52	106.767	850
Loco. Jr., Hearne	9	2:21:00.03	106.382	800
Miller, Shattuc	10	Flagged 185th lap		750

Also started: Miller, Batten; Boyle Spl., Woodbury; Miller F. D., Cooper; Miller, Gulotta; Miller, F. D., Lewis; Miller, Lecklider; Loco. Spl., Fergler; Miller, DeVore.

Summary of 1926 Speedway and Major Dirt Track Races

SALEM, TWO 25 MILE AND ONE 200 MILE EVENT, SALEM, N. H., OCTOBER 12, 1926

(Total Prize Money, $25,000)

First 25 Mile Sprint. Number starters, 18. Number to finish, 14. Prize money, $2,500.

Car and Driver	Place	Time	M. P. H.	Prizes
Miller, F. D., Hill	1	11:32.43	130.057	$1,000
Miller, Hartz	2	11:32.58	.....	600
Miller, Lockhart	3	11:32.67	.....	400
Boyle Spl., Woodbury	4	11:49.40	.....	300
Miller, F. D., Lewis	5	11:55.07	.....	200
Loco. Spl., Hepburn	6	12:15.51	.....	.....
Duesenberg, DePaolo	7	12:24.28	.....	.....
Loco. Spl., Morton	8	Flagged	.....	.....
Duesenberg, Evans	9	Flagged	.....	.....
Miller, Shattuc	10	Flagged	.....	.....
Miller, F. D., Duray	11	Flagged	.....	.....
Miller, Comer	12	Flagged	.....	.....
Miller, F. D., Kreis	13	Flagged	.....	.....
Miller, Elliott	14	Flagged	.....	.....

Also started: Miller, Batten; Miller, DeVore; Miller, Gulotta; Miller, F. D., McDonogh.

Second 25 Mile Sprint. Number starters, 13. Number to finish, 8. Prize money, $2,500.

Car and Driver	Place	Time	M. P. H.	Prizes
Miller, F. D., Duray	1	11:30.22	130.393	$1,000
Miller, Hartz	2	11:30.95	130.255	600
Miller, Lockhart	3	11:31.33	130.183	400
Miller, Lewis	4	11:38.00	128.939	300
Miller, Hill	5	11:53.28	126.037	200
Boyle Spl., Woodbury	6	12:02.98	124.484	.....
Duesenberg, Evans	7	12:31.30	119.659	.....
Miller, Batten	8	12:41.99	118.111	.....

Also started: Loco. Spl., Hepburn; Miller, Elliott; Miller, Comer; Miller, F. D., Kreis; Duesenberg, DePaolo.

200 Mile Race—Number starters, 17. Number to finish, 8. Prize money, $20,000.

Car and Driver	Place	Time	M. P. H.	Prizes
Miller, Hartz	1	1:37:21.24	123.261	$8,000
Miller, F. D., Kreis	2	1:37:24.91	123.184	4,000
Miller, F. D., Duray	3	1:37:24.94	123.183	2,000
Duesenberg, Evans	4	1:42:07.77	117.509	1,400
Miller, Elliott	5	1:44:34.16	114.756	1,000
Miller, Shattuc	6	1:47:18.35	111.829	900
Miller, Gulotta	7	Flagged	.....	800
Miller, F. D., Hill	8	Flagged	.....	700

Also started: Miller, DeVore; Duesenberg, DePaolo; Miller, Batten; Miller, F. D., Lewis; Miller, Comer; Boyle Spl., Woodbury; Loco. Spl., Hepburn; Loco. Spl., Morton; Miller, Lockhart.

CHARLOTTE, TWO 25 MILE, ONE 50 MILE, ONE 100 MILE EVENTS, CHARLOTTE, N. C., NOV. 11, 1926

(Total Prize Money, $20,000)

First 25 Mile Sprint—Number starters, 6. Number to finish, 5. Prize money, $2,500.

Car and Driver	Place	Time	M. P. H.	Prizes
Miller, Lockhart	1	11:19.73	132.405	$1,000
Miller, Hill	2	11:22.07	131.95	600
Loco. Spl., Elliott	3	11:59.09	125.15	400
Miller, Shattuc	4	11:59.38	125.10	300
Miller, F. D., Kreis	5	Flagged 17th lap		200

Also started: Miller, F. D., Duray.

Second 25 Mile Sprint—Number starters, 6. Number to finish, 6. Prize money, $2,500.

Car and Driver	Place	Time	M. P. H.	Prizes
Miller, F. D., Lewis	1	11:48.56	127.018	$1,000
Miller, Hartz	2	11:49.86	126.78	600
Boyle Spl., Woodbury	3	12:00.83	124.85	400
Miller, Comer	4	12:01.28	124.77	300
Miller, DePaolo	5	12:06.67	123.85	200
Loco. Spl., Hepburn	6	12:07.10	123.77	.....

Third 50 Mile Event—Number starters, 12. Number to finish, 7. Prize money, $5,000.

Car and Driver	Place	Time	M. P. H.	Prizes
Miller, Hartz	1	23:11.56	129.351	$2,000
Miller, F. D., Duray	2	23:11.94	129.316	1,200
Miller, F. D., Lewis	3	23:17.58	128.794	800
Miller, Hill	4	23:58.52	125.184	500
Miller, DePaolo	5	24:02.55	.....	300
Loco. Spl., Elliott	6	24:34.97	.....	200
Miller, Shattuc	7	24:39.65	.....	.....

Also started: Miller, Lockhart; Miller, Comer; Miller, Meyer; Loco. Spl., Hepburn; Miller, F. D., Kreis.

100 Mile Race—Number starters, 9. Number to finish, 6. Prize money, $10,000.

Car and Driver	Place	Time	M. P. H.	Prizes
Miller, F. D., Duray	1	49:09.73	122.045	$4,000
Loco. Spl., Elliott	2	49:47.51	120.501	2,000
Miller, Shattuc	3	49:47.62	120.497	1,500
Miller, Hartz	4	Flagged 79th lap		1,000
Miller, Comer	5	Flagged 72nd lap		750
Miller, DePaolo	6	Flagged 41st lap		500

Also started: Loco. Spl., Hepburn; Miller, F. D., Lewis; Miller, Lockhart.

Invitational Speedway Meets

FRESNO, ONE 25 MILE AND ONE 50 MILE EVENT, FRESNO, CALIF., APRIL 15, 1926

(Total Prize Money, $6,000)

25 Mile Event—Number starters, 3. Number to finish, 3. Prize money, $2,000.

Car and Driver	Place	Time	M. P. H.	Prizes
Junior 8, Cooper	1	14:25.4	104.00	$1,000
Miller, Hill	2	.....	.....	700
Duesenberg, DePaolo	3	.....	.....	300

50 Mile Event—Number starters, 3. Number to finish, 3. Prize money, $4,000.

Car and Driver	Place	Time	M. P. H.	Prizes
Duesenberg, DePaolo	1	29.4	103.2	$2,000
Junior 8, Cooper	2	.....	.....	1,500
Miller, Hill	3	.....	.....	500

FRESNO, TWO 25 MILE EVENTS AND ONE 50 MILE, FRESNO, CALIF., OCTOBER 2, 1926

(Total Prize Money, $4,000)

First 25 Mile—Number starters, 4. Number to finish, 4. Prize money, $1,000.

Car and Driver	Place	Time	M. P. H.	Prizes
Duesenberg, DePaolo	1	15:14.4	98.42	$500
Miller, Hill	2	14:14.6	98.40	300
Miller, Lewis	3	15:15	98.35	200
Miller, Lockhart	4	15:15.2	98.32	.....

Second 25 Mile—Number starters, 4. Number to finish, 4. Prize money, $1,000.

Car and Driver	Place	Time	M. P. H.	Prizes
Miller, Hill	1	14:07	106.25	$500
Miller, Lockhart	2	14:08	106.12	300
Miller, Lewis	3	14:15	105.21	200
Duesenberg, DePaolo	4	14:50	101.12	.....

50 Mile Event—Number starters, 4. Number to finish, 4. Prize money, $2,000.

Car and Driver	Place	Time	M. P. H.	Prizes
Miller, Lockhart	1	29:46.8	100.75	$1,000
Miller, Hill	2	29:47	100.72	700
Duesenberg, DePaolo	3	30:32.6	98.22	300
Miller, Lewis	4	30:52	97.20	.....

Major Dirt Track Meets

DETROIT 100 MILE RACE—DETROIT, JUNE 27, 1926

Number starters, 12. Number to finish, 5. Total prize money, $7,500.

Car and Driver	Place	Time	M. P. H.	Prizes
Miller, Lockhart	1	1:25:56.82	.....	$3,000
Miller, Woodbury	2	1:28:12.03	.....	1,500
Lansing Spl., Ross	3	1:30:47.45	.....	1,250
Credit Spl., Harder	4	1:35:37.14	.....	750
Pidd Spl., Mallo	5	1:44:33.18	.....	500

Also started: Hamlin, F. D., Stapp; Ross Spl., Ross; Karnatz Spl., Karnatz; Pelton Spl., Miller; DeVries Spl., Hyatt; Miller Spl., Hearne; Baby Fronty Spl., B. Miller.

HAWTHORNE, THREE 5 AND ONE 20 MILE EVENTS, CHICAGO, AUG. 29, 1926

(Total Prizes, $2,400)

First 5 Mile Event—Number starters, 2. Number to finish, 2. Prize money, $200.

Car and Driver	Place	Time	M. P. H.	Prizes
Miller, DePalma	1	4:44.02	63.2	$200
Hamlin, Alley	2	4:44.60	.....	.....

Second 5 Mile Event—Number starters, 2. Number to finish, 2. Prize money, $200.

Car and Driver	Place	Time	M. P. H.	Prizes
Boyle, Woodbury	1	4:11.40	71.6	$200
Elcar, DePaolo	2	4:18.2	.....	.....

Third 5 Mile Event—Number starters, 2. Number to finish, 2. Prize money, $500.

Car and Driver	Place	Time	M. P. H.	Prizes
Miller, DePalma	1	4:15	70.58	$500
Boyle, Woodbury	2	4:16.2	.....	.....

Fourth 20 Mile Event—Number starters, 4. Prize money, $1,500.

Car and Driver	Place	Time	M. P. H.	Prizes
Miller, DePalma	1	16:36.6	72.3	$1,000
Boyle, Woodbury	2	17:56.2	.....	300
Miller, Miller	3	18:19.8	.....	200
Hamlin, Alley	4	Flagged 19th lap		.....

SYRACUSE, 5 MILE, 10 MILE AND 50 MILE EVENTS, SYRACUSE, NEW YORK, SEPTEMBER, 4, 1926

(Total Prize Money, $10,500)

5 Mile Event. Prize money, $500.

Car and Driver	Place	Time	M. P. H.	Prizes
Miller, DePalma	1	4:03.60	.....	$250
Miller, Vail	2	4:03.65	.....	125
Miller, Ganung	3	4:05.15	.....	75

10 Mile Event. Prize money, $1,000.

Car and Driver	Place	Time	M. P. H.	Prizes
Miller, DePalma	1	7:24.40	.....	$500
Miller, Vail	2	7:26.24	.....	250
Miller, Ganung	3	7:58.87	.....	150
Cyr Spl., Cyr	4	8:24.94	.....	100

50 Mile Race. Prize money, $9,000.

Car and Driver	Place	Time	M. P. H.	Prizes
Miller, DePalma	1	38:02.30	.....	$3,000
Miller, Vail	2	40:39.55	.....	1,500
Miller, Shafer	3	41:16.85	.....	1,000
Miller, Ganung	4	41:20.97	.....	750
Duesenberg, Albertson	5	Flagged 48th lap		500
Cyr Spl., Cyr	6	Flagged 48th lap		250
Turgeon Spl., Turgeon	7	Flagged 48th lap		200
				100
				100
				100

DETROIT 100 MILE RACE, DETROIT, SEPTEMBER 11, 1926

Number starters, 12. Number to finish, 7. Total prize money, $16,000.

Car and Driver	Place	Time	M. P. H.	Prizes
Miller, Lockhart	1	1:21:30.62	73.610	$4,000
Miller, Duray	2	1:24:04.80	71.361	2,400
Miller, Batten	3	1:24:04.78	71.108	1,800
Boyle, Woodbury	4	1:24:24.27	71.086	1,200
Miller, DeVore	5	1:25:46.29	69.953	900
Ford, Ross	6	1:32:24.88	64.925	800
Duesenberg, Hepburn	7	Flagged 89th lap		700

Also started: Miller, DePalma; Miller, Cooper; Shattuc, Miller; Miller, Shafer; Miller, DePaolo.

DETROIT 100 MILE RACE, DETROIT, OCTOBER 31, 1926

Number starters, 12. Number to finish, 4. Total prize money, $6,000.

Car and Driver	Place	Time	M. P. H.	Prizes
Ross Spl., Ross	1	1:24:55.35	71.424	$2,400
Elcar, Larson	2	1:28:38.32	68.178	1,200
Pardo Spl., Miller	3	1:29:08.33	67.412	800
Pidd Spl., Mallo	4	1:47:23.45	56.071	600
				500
				300
				200

Also started: Duesenberg, DePaolo; Miller, Batten; Miller, Vail; Miller, DeVore; Duesenberg, Evans; Lansing, E. Ross; Garfield, May; Livernois, Thomas.

Demand Grows for

Supplying and Installing Material to Replace Breakages Is a Profit Opportunity for the Motor Car Maintenance Shop

By C. EDWARD PACKER

EQUIPPED FOR PROFIT

Automobile Glass Replacement

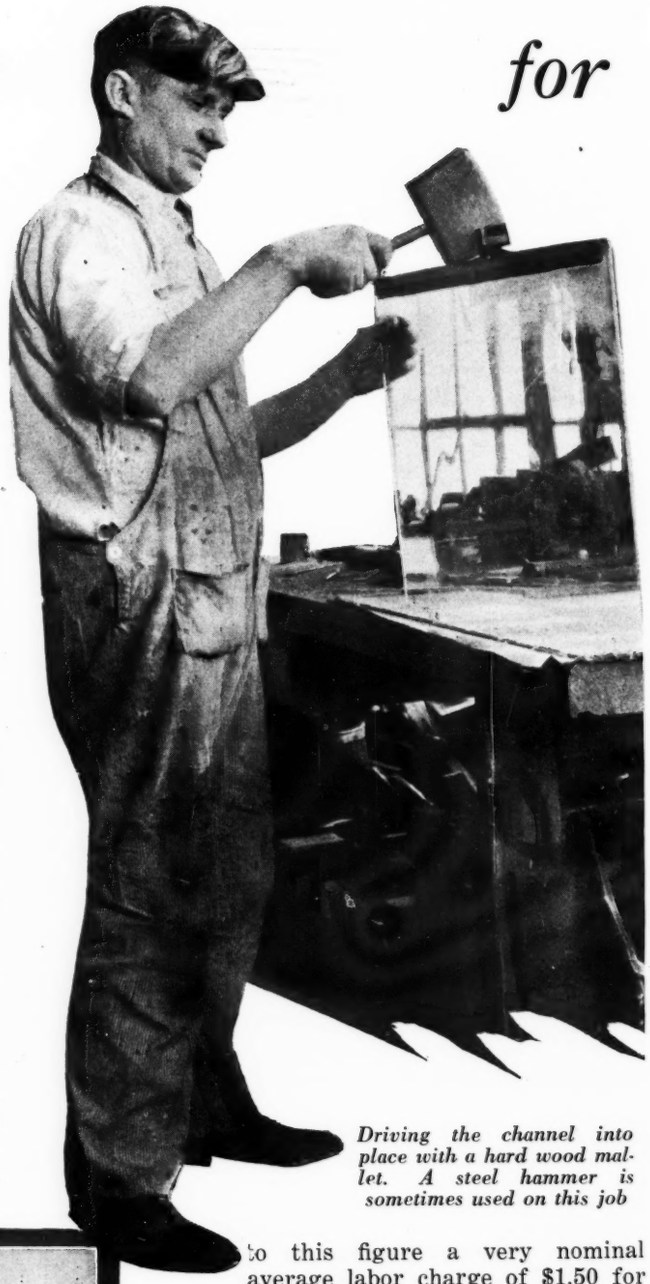
In addition to such equipment a felt covered bench, a steel cabinet in which to store glass, and a glass edging machine there is little needed to profitably handle glass service.

Of course there will be a number of small hand tools consisting of glass cutters, pliers and nippers, special glass cutters, rules, hammers, mallets and similar small tools. However, the entire cash outlay for this equipment is very small—especially when the potential market is considered.

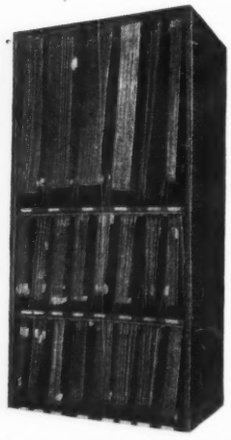
REPLACEMENT glass service work has increased greatly in the last few years. That is to be expected from the very nature of the product and the conditions under which it must serve.

With the trend toward closed cars, greater visibility and higher speeds it is inevitable that more and more glass will be replaced as the years go by.

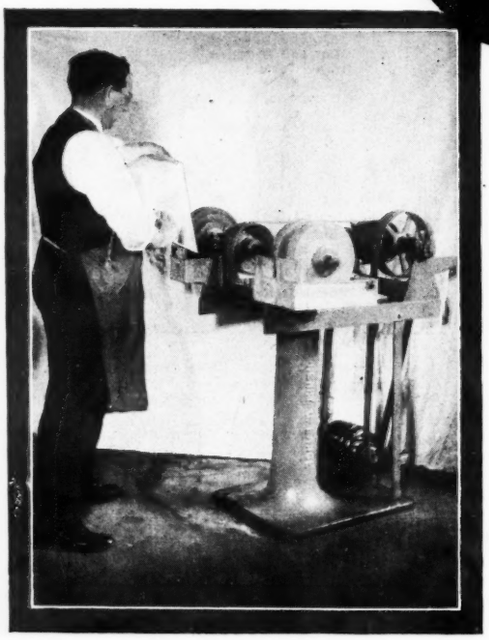
But the market of today is one that is so large as to be difficult to visualize. Millions of pieces of automobile glass were broken in the United States in the last year. At retail this glass represents about $25,000,000 spent by motorists just for material. Add to this figure a very nominal average labor charge of $1.50 for each piece replaced and we have an astounding total. Surely a market well worth one's serious attention.



Driving the channel into place with a hard wood mallet. A steel hammer is sometimes used on this job



A safe storage cabinet for Ford glass. This is designed to carry 12 sizes of windshield glass and 16 sizes of door glass. Steel construction gives strength while wooden liners prevent chipping of the glass



An inexpensive but practical glass edging machine for service station use

It is worth while to make note of the possible cause of the breakage when making replacements. Failure to note the cause of breakage has, in many cases, resulted in a second and even a third breakage in the same place. Naturally such a condition destroys customer confidence and is extremely expensive to the service station.

Of course there are causes that no one can definitely determine such as defective glass, glass too tight in the frame, or some other condition that is obliterated when the glass breaks.

Causes of breakage such as worn and loose glass channels, defective window or windshield lifts, misaligned channels that bind the glass, defective door locks or door bumpers that encourage slamming of the

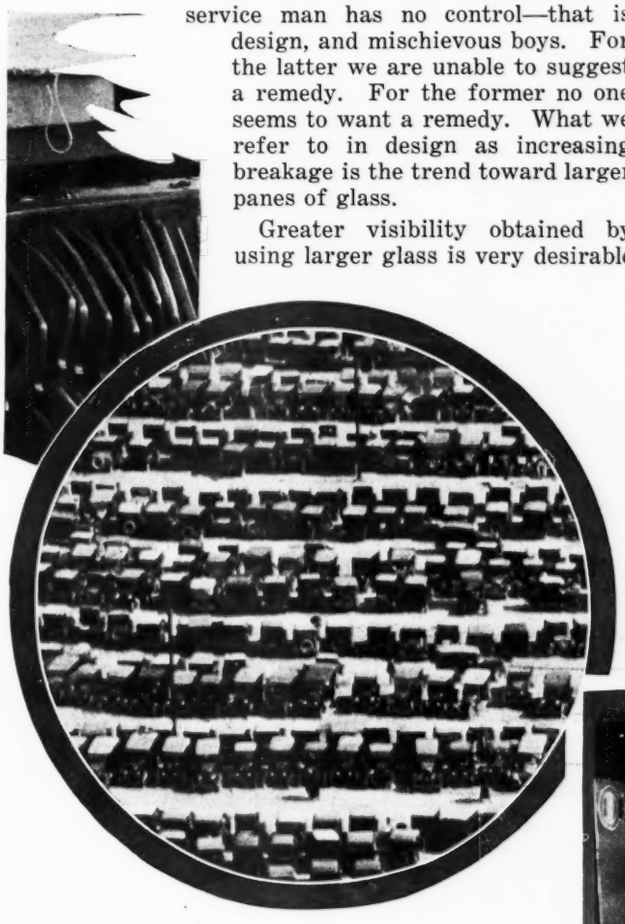
Automobile GLASS REPLACEMENT Service

SIXTEENTH article in the "Equipped for Profit" Series.

doors, or similar difficulties should be corrected before replacing the glass.

In addition to the two groups of causes of glass breakage just mentioned there are others over which the service man has no control—that is design, and mischievous boys. For the latter we are unable to suggest a remedy. For the former no one seems to want a remedy. What we refer to in design as increasing breakage is the trend toward larger panes of glass.

Greater visibility obtained by using larger glass is very desirable both for safety and comfort. However, it is evident that the larger the expanse of glass the greater is the strain on it when bumps are encountered or when doors are slammed.



A sea of cars—part of the $31,000,000 glass replacement market

Replacing Door or Window Glass

The first thing to do in replacing a door or window glass is to remove the metal channel and clean out all fragments of glass and packing material.

Installing the glass in the channel is really a very simple operation if performed in the following manner. Place the glass that is to be installed with the top resting on a smooth wooden bench. Cut a piece of fresh friction tape and lay it on the edge where the channel is to fit.

It is always best to replace broken glass with glass of the same thickness. However, if your stock of glass is of different thickness from that used in the car, that can be made up in the fitting of the channel by using glazing felt.

Should a 3/16 in. thick glass be used for replacement where ¼ in. had been it will be necessary to bring up the thickness by using extra felt in order to get a tight fit with the channel.

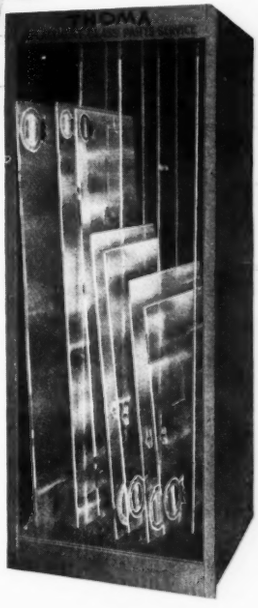
The felt is laid over the tape. As a rule a ¼ in. glass will require only one piece of felt while a 3/16 in. glass will require two pieces.

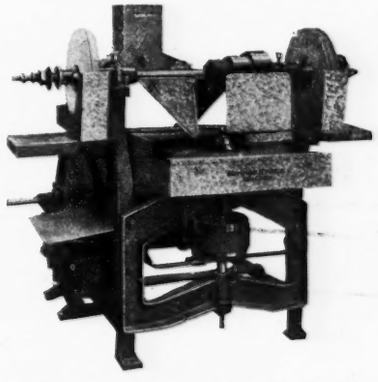
Then the channel is driven firmly into place striking first near one end and then near the other.

The felt and friction tape method of setting glass is the original one. But there are other ways of doing this. There are rubberized felts, which require no friction tape and also cork and rubber fabrics, coated on one or both sides, which require neither felt nor friction tape.

For windshield setting, there is artificial leather welt, which has cord fitted on each side and serves the same purpose as the light metal liner, to which we refer later on.

An excellent replacement glass cabinet for car dealers. Such a container not only protects the stock but sells it





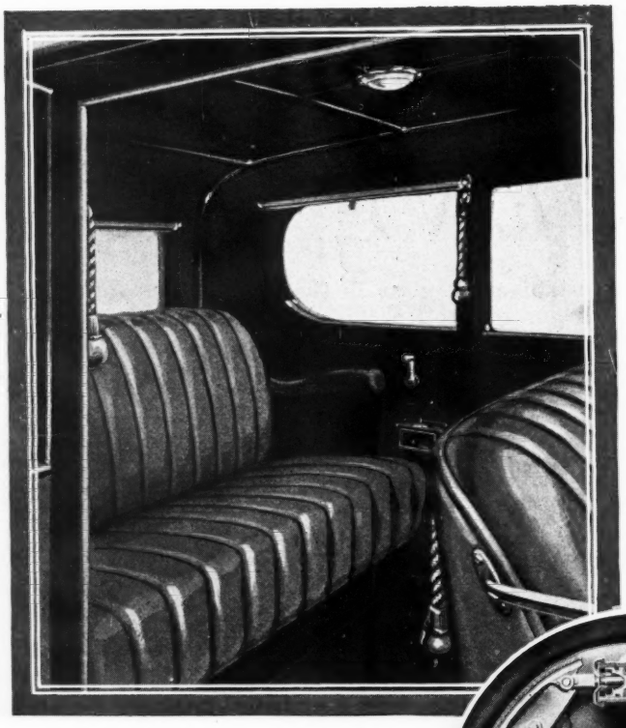
A very complete machine for grinding and polishing the edges of automobile glass

Assuming that we now have a piece of glass of the exact size to fit and that the channel is properly installed attention should be given to other matters.

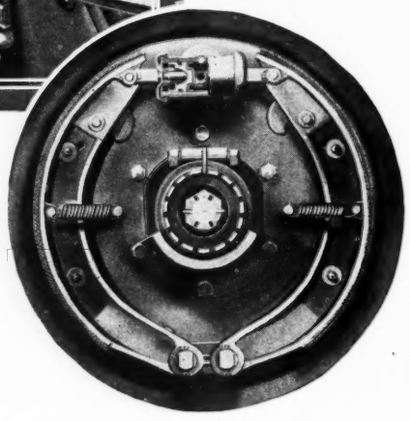
(*Continued on page 28*)

New Reo

Lockheed Hydraulic Internal Brakes, Lower Bodies, More Powerful Engine, and Seven-Bearing Crankshaft Are Features of 1927 Models



This internal view of sedan shows the framework of the roof which is exposed in the new car. This enhances the appearance and increases slightly the head room



Internal view of the new Lockheed hydraulic mechanism on the new Reos

A BRAND new Reo car—the first new model or radical change in design to be made in their passenger car line within the last eight years—will be introduced by the Reo Motor Car Co. at the New York Automobile Show. The new Reo designated by the title "Flying Cloud" will be the only passenger car model in the line and will occupy the same $1,500-$1,800 price field as established by the previous car which it replaces.

Contrasting with the design of the previous T-6 chassis, the new car embodies a moderately high speed engine of the "L" head type, unit powerplant, and a new four wheel Lockheed-hydraulic braking system of the internal shoe type. Due to innovations in roof and body structure, the use of 18 in. diameter wheels and the general low-hung design of the conventional lay-out chassis, the new Reo line ranks among the lowest appearing cars on the road.

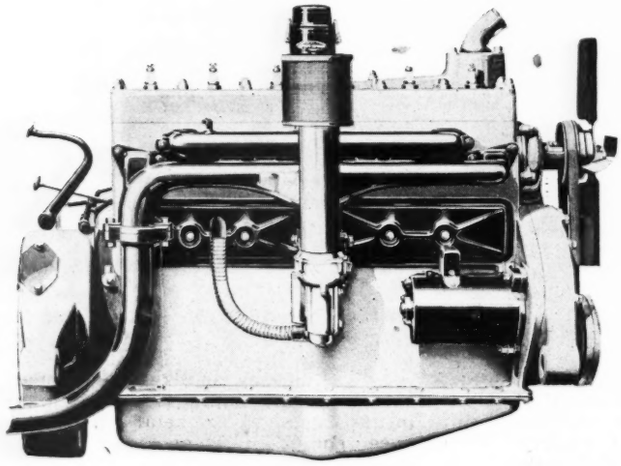
Bodies on the new Reo chassis have a custom-built effect imparted by heavily rounded rear upper quarters, curved roof sides, and long hood and cowl lines. Their appearance is further enhanced by an entirely new radiator design and two-tone color effects.

According to their sales policy and production plans the Reo Company expects to build three times as many of the new cars a year as were produced annually with the previous line.

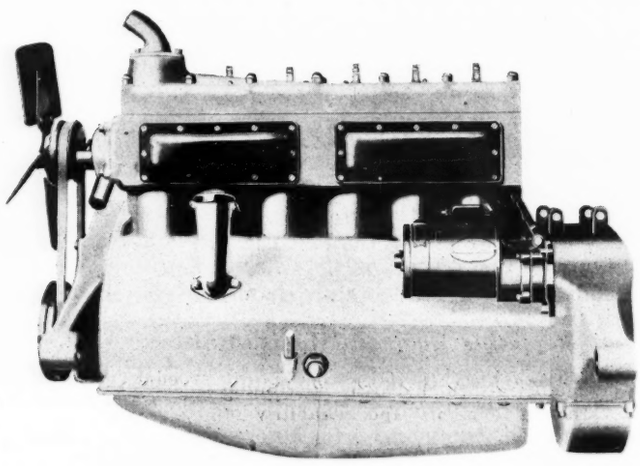
A brief review of the chassis features of the new "A" series car shows the engine of 3¼x5 in. bore and stroke, has a seven bearing crankshaft fitted with a vibration dampener. Built in unit with the single plate clutch and a conventional three-speed transmission, the entire powerplant is secured to the frame by a unique design rubber mounting. Oil and air filter are standard equipment. The final drive, semi-floating rear axle provides a ratio of 4.58 to 1, and the front axle and steering gear follow usual practice. One of the interesting features is a Lockheed internal operating brake system. While the hookup and operation is similar to the well known external Lockheed brakes, the internal shoes are expanded by a cylinder enclosed by the wheels. Tire size on the new chassis is 30x6.20 with the wheel base 121 in. Ready for the road the five passenger sedan model weighs 3700 lb.

Contributing toward the low appearance of the new bodies is a new style of roof structure. On the steel bodies the wooden frame supporting the roof slats is exposed and the usual inside roof covering sets close to the outside top material and covers the slats. This construction allows about 1 in. more headroom, while the exposed polished natural wood frame adds a distinctive touch to the interior of the cars. With this form of structure a space is left where the roof joins the roof rails. By running a thin upholstered strip along the inside of the roof rail, the space left between the roof and the rail may be used for carrying small articles like gloves, maps and umbrel-

Valve side of the "L" head powerplant employed in the new Reo car



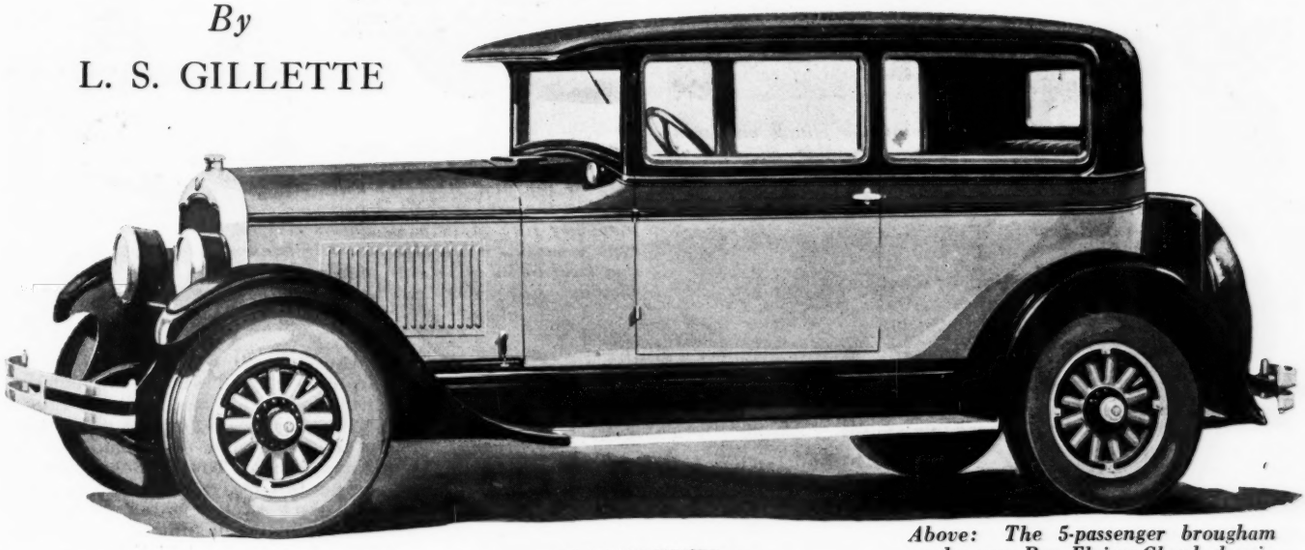
Left side of the new Reo powerplant. At the water outlet in the cylinder head a thermostat is located



is the "Flying Cloud"

By

L. S. GILLETTE

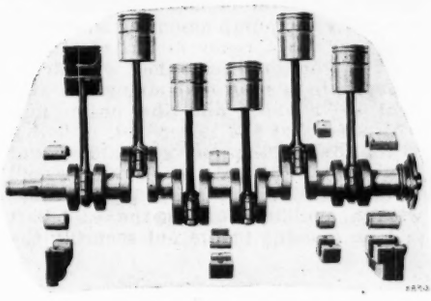


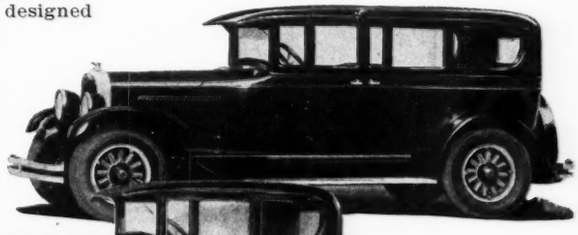
Above: The 5-passenger brougham on the new Reo Flying Cloud chassis

At Left: Composite view showing details of the seven bearing crankshaft connecting rods and piston assemblies

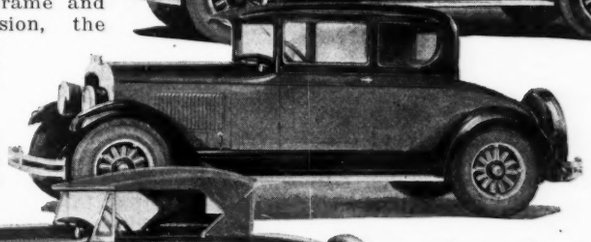
las. Mohair or broadcloth upholstery is used on all closed cars. One piece windshields swinging from the top are provided, and in addition to the usual items of equipment which include a dash gasoline gage, automatic windshield cleaner and cowl ventilator, several body models are provided with front and rear bumpers, vanity and smoking sets as standard equipment. All cars are fitted with a set of Lovejoy shock absorbers, artillery wheels and two filament headlight bulbs.

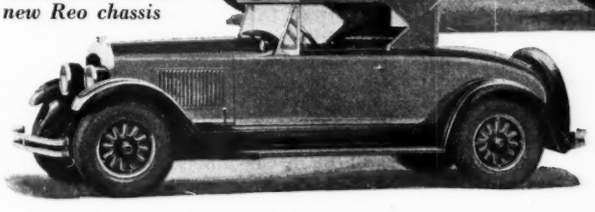
In summarizing the "A" car, it may be said the new model is a modernized version of the T-6 line and is designed in accordance with latest engineering practice to meet with requirements of present day driving conditions. With the abandonment of several characteristic features of the earlier cars, such as an F-head engine, sub-frame and separate transmission, the probable lesser cost of production has been offset by the adoption of a highly efficient braking system, the use of special new equipment for finishing bearing surfaces and marked improvements in body appointments. The Reo company has elected to remain in its respective price class in order that the same qualities of workmanship which have attributed toward the longevity and reliability of the previous cars may be retained in the new model.





Below: The roadster model with rumble seat on the new Reo chassis





The regular 5-passenger sedan which employs a Budd all-steel body

4-passenger new Reo coupe

Compared with the previous series of Reo cars the new models show improvement in performance and riding qualities. A representative of MOTOR AGE driving one of the new sedans with full load over dirt roads, found it possible to maintain a steady 65 m.p.h. speed without any trace of unsteadiness or loss of power. A speed of 55 m.p.h. seemed to be a comfortable touring speed with plenty of reserve power available. Applying the brakes with the car traveling in either forward or reverse motion at 20 m.p.h. it was possible to come to a dead stop in 16 ft. without any grabbing. Figures furnished by the company show the new car is capable of accelerating from 5 to 25 m.p.h. in 7¾ seconds, has a top speed of 70 m.p.h. and a speed of 46 m.p.h. in second gear.

Manufactured throughout in the Reo shops, the seven bearing "L" head engine of 3¼ by 5 in. bore and stroke having a N. A. C. C. hp. rating of 25.2 and a piston displacement of 249 cu. in., is stated to deliver 73 b.hp. at 2800 r.p.m. The compression ratio is 4.8 to 1. Compared with the previous Reo engine the cylinder bore is 1/16 in. larger in diameter while the stroke length remains the same.

Cylinder block and crankcase construction is of cast iron and integrally formed while the cylinder head is detachable and the oil pan of pressed steel. From the water pump mounted at the front end of the block the main supply of water is made to circulate under the valves first and from there it passes round the cylinder barrels. Two cover plates on the left side of the block facilitate casting and inspection of the water passages while at the water outlet in the cylinder head a Bishop and Babcock thermostat is installed.

A new method of insulating the four engine support arms from the chassis frame is employed on the new cars. Round hollow bosses formed at the ends of the engine arms are each fitted with two rubber bushings inserted from either side. These rubber bushings are formed with a collar at their ends so engine mounting brackets the collars that when the engine is placed in the insure no metal to metal contact between engine and frame. A single bolt

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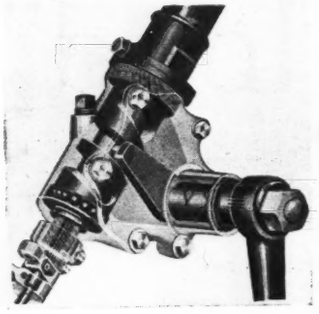
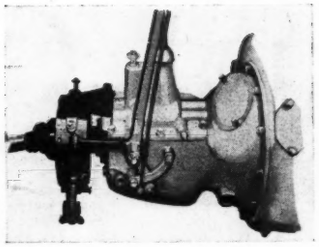
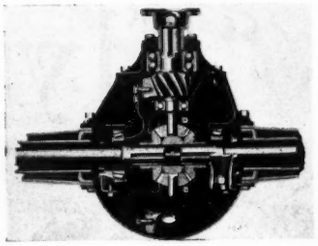


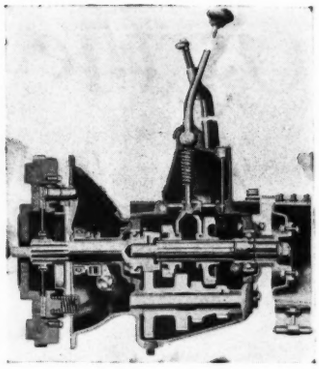
Phantom view of the Ross cam and lever steering gear



View of the clutch and transmission assembly showing details of the emergency hand brake



No adjustment for the pinion bearing is provided on the rear axle of the new Reo. As will be seen the pinion shaft is permanently located in a straddle type mounting with adjustment and wear being taken care of by moving side gear in usual manner



Phantom view of the single plate clutch and three-speed transmission employed on the new Reo

passing through the mounting bracket and through the rubber bushings of the engine arm secure each of the four points of suspension.

Seven bronze back babbitt bearings support the fully machined and balanced crankshaft. A feature of the new crankshafts is the lapped finish insure no metal to metal contact between engine and frame. A single bolt which is imparted to all journals by special Schraner machines. By removing all grinding traces on the journals the lapped finish reduces the usual time necessary for the bearings to wear in and enables the bearings to be set to closer limits. The crankshaft has neither an off-set nor counterbalances. At its forward end a Lanchester vibration dampener is mounted in connection with the fan drive pulley. Diameters of the seven main journals are 2.3125 in. with their lengths: Front, 2.1875 in.; center, 1.8125 in.; rear, 2.750 in., and intermediates, 1.3125 in. Thrust is taken on the rear bearings. Main bearing clearance is .002 in. and the end play .004-.006 in.

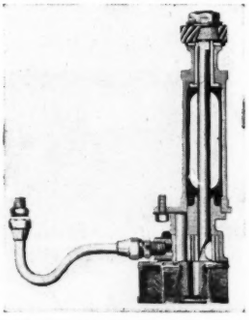
Drive to the four bearing camshaft is by a Morse 1½ in. wide chain, adjustment for wear of the latter being compensated for by swinging the generator mounting. The chain is 32 in. long and of ½ in. pitch. The bronze bearings of the camshaft are of the following sizes:

	Front	Second	Third	Rear
Diameter	2.185	2.125	2.062	1.500 in.
Length	1.625	.875	.875	1.935 in.

Valves operated by usual type mushrooms have a lift of 5/16 in., a head diameter of 1 3/16., a clear opening of 1⅝ in. and a length of 5¾ in. Both inlet and exhaust valves are of the one piece variety, the former being made of chrome-nickel steel and the latter silchrome steel. The valve guide clusters formed in two groups of six have their barrels burnished with a steel ball after reaming to insure a quiet noiseless fit. Valve timing in intake opens T.D.C.; intake closes 40 deg. late; exhaust opens 48 deg. early; and the exhaust closes 2 deg. late.

Plain type aluminum alloy pistons having three 3/16 in. rings all above the pistons are secured to the connecting rods by .983 in. diameter piston pins, the latter being secured in the upper end of the rod and working in the piston without bushings. The lowest of the piston rings is of the Quality Drain Oil type requiring oil return holes in the ring groove. The pistons weighing 1.46 lb. complete have a length of 4 in. and the distance from head to pin center is 2.230 in. The usual type connecting rods of 10½ in. center to center length weigh 2.47 lb. with the size of the poured babbitt bearing in the lower ends 2.065 in. diameter by 1.50 in. long. Bearing clearance is from .0015 to .0025 in.

Lubrication is by full force system with the oil supplied to the crankshaft, connecting rods and camshaft bearings under pressure from a gear pump located in the oil pan. The method of mounting the pump assembly is unusual and provides a ready means of removing the whole unit complete with drive. A separate casting embodying the vertical drive shaft and the pump unit with screen at the lower end, is bolted to the lower flange of the crankcase at the center bearing. At the upper end of the drive shaft a spiral gear meshes with a similar gear on the camshaft and an opening in the nut securing the



View of the entire oil pump assembly

upper pump gear provides the drive for the other vertical shaft which operates the ignition distributor. By severing the oil line connection and removing the set screws the entire pump assembly can be removed. Oil from the pump is forced into a vertical passage drilled in the crankcase and connects with a similar passage running lengthwise along the case. From the horizontal line ducts lead down to each of the main journals. Holes drilled from the main crankshaft journals to large chambers in the crankpins provide plenty of oil for the connecting rods. Oil is led to the camshaft where it is distributed to the bearings through the hollow shaft while another pipe feeds oil to the timing chain. An oil filter of Handy make is mounted on the dash. Alongside of the bayonet type oil gage the relief valve is placed which is set to open at 30 lb. pressure. The capacity of the crankcase is six quarts.

In the induction system the intake manifold is placed above the exhaust manifold and the lead to the intake system from the carburetor is through an integral hot spot formed in the exhaust manifold. The Siamesed intake ports and the individual exhaust ports are of square section which correspond with the general layout of the manifolding. The model "S" Schebler carburetor of 1½ in. size and of the vertical outlet type is provided with a vertical air intake pipe at the top of which is mounted an Air-Maize make of screen type air filter. Feed to the carburetor is by a Stewart vacuum tank from the 17 gal. tank at the rear of the chassis. No gasoline filter is provided.

All electrical units are of Remy-Delco make. The distributor mounted on the cylinder block is provided with a semi-automatic advance and fires the standard Champion plugs in a 1-5-3-6-2-4 order. Engagement of the starter with 111 tooth flywheel gear is by a mechanically operated gear shift through an overrunning clutch. The generator provided with a thermostat is mounted on the right side of the engine on the opposite side to the starter. Model designations of these units are: distributor, 636K; generator, 949B, and starter, 724E. The battery carried beneath the front seat is of Willard make of 6 volt and 111 amp. hr. capacity.

Water circulation is by a centrifugal pump mounted on the front of the cylinder block in conjunction with the fan and driven by a ¾ in. "vee" belt. The rear end of the pump shaft is supported by a plain bronze packing nut while at the forward end it is carried by a double row ball bearing. Lubrication of the front end is by a Zerk fitting screwed into the hollow shaft. Adjustment for fan belt wear is by a movable flange on the fan pulley. The radiator of the honeycomb cellular type and of Harrison make is enclosed by a nickeled pressed steel shell.

Both the clutch and transmission formed in unit with the powerplant are modeled along conventional lines. The single plate clutch of Long make has the composition friction lining riveted to both sides of the 9¾ in. diameter driven disk. Smooth clutch operation has been secured by imparting a slight dish to the plate so that the outer edge of the plate makes contact first with the driving member which makes for

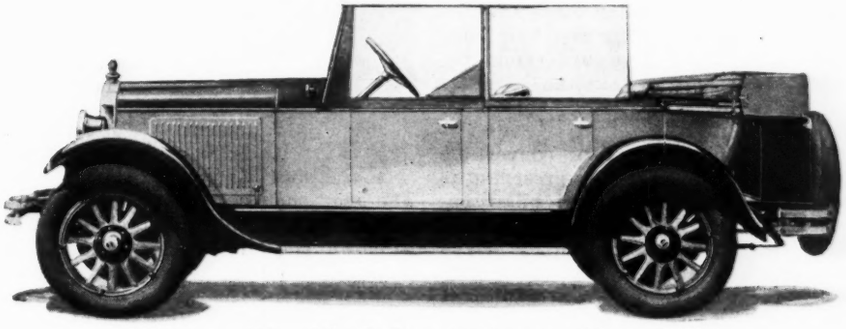
(*Continued on page 27*)

Front Wheel Brakes Added *to* Oldsmobile

Line for 1927 *Also Has Smaller Wheels and Larger Tires and Includes a Special Touring Body with Rigid Side Curtains*

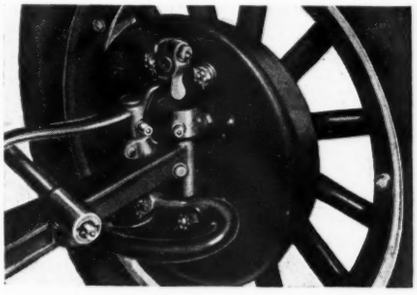
By L. S. GILLETTE

AN important chassis change on the Oldsmobile cars for 1927 is the adoption of Bendix three-shoe front wheel brakes for all models at no increase in price. Coincident with the embodying of the four-wheel braking system, larger cross section tires mounted on smaller diameter wheels, new carburetor equipment, and several other mechanical changes,—a new style touring car with rigid-detachable side curtains, has been added to the present line of cars manufactured by the Olds Motor Works. The body range, colors, and equipment on the 1927 cars are substantially the same as last year.



Oldsmobile de Luxe touring car with rigid side curtains

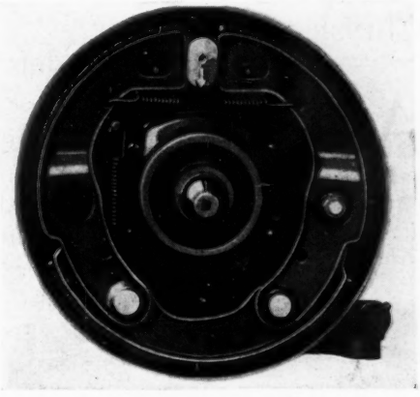
Undoubtedly the most important of the refinements embodied periodically on the present series of Oldsmobile



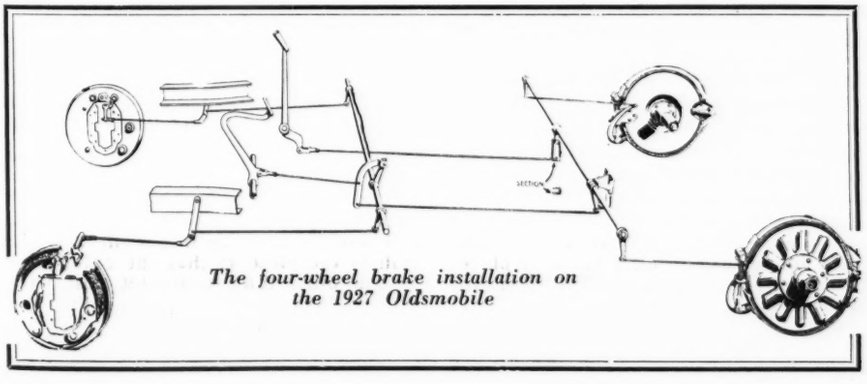
Brake application to Oldsmobile front wheel

cars, the front wheel brakes are mounted on the new models without any change in the hookup or operation of the external contracting rear wheel brakes which are of the same type as those employed on the previous cars. The leverages of the four wheel brake system are designed so that the braking force is distributed 50-50 on the front and rear wheels. To make for simpler arrangement, the hand brake no longer operates on the transmission brake drum but is connected with the rear wheel brakes so that by applying the hand lever it sets the rear wheel brakes only. While the hand brake operates the same rear brakes as used in the service brake system, both systems function independently of one another. Due to the nature of the brake linkages, the setting of the hand brake depresses simultaneously the foot pedal so that it becomes obvious immediately to the driver if he attempts to drive the car with the hand brake set.

The front wheel brakes are of the conventional Bendix three-shoe self-energizing type operated by a lever mounted on a boss near the axle spindle mounting. A rod with an adjusting nut at its forward end connects the brake operating lever with a fulcrum arm on the chassis frame which in turn is connected with a brake cross shaft placed behind the transmission. A lever centrally attached on this cross shaft is provided with a balanced lever which is pivoted at its upper end to the eye of the cross shaft lever. At the lower end of the balance lever, a rod connects direct with the rear brake cross shaft which in turn operates the rear brakes in the usual manner. The rod from the brake pedal makes connection with the brake mechanism at center of the balance lever. When the pedal is depressed the top end of the balance lever operates the front brakes through the front cross shaft while the rear brakes are applied by the rod from the lower end of the balance lever. This arrangement is said to give complete equalization on both front and rear wheel brakes. The hand brake lever is connected by a rod direct to the rear brake cross shaft.



Inside view of the Oldsmobile front wheel brake



The four-wheel brake installation on the 1927 Oldsmobile

The only new body model added to the line is a five passenger touring car which is expected will find the biggest market in the overseas trade. By a special construction of the top bows and hangers the top in its folded position sets below the body lines of the car. The rigid side curtains with large

(*Continued on page* 32)

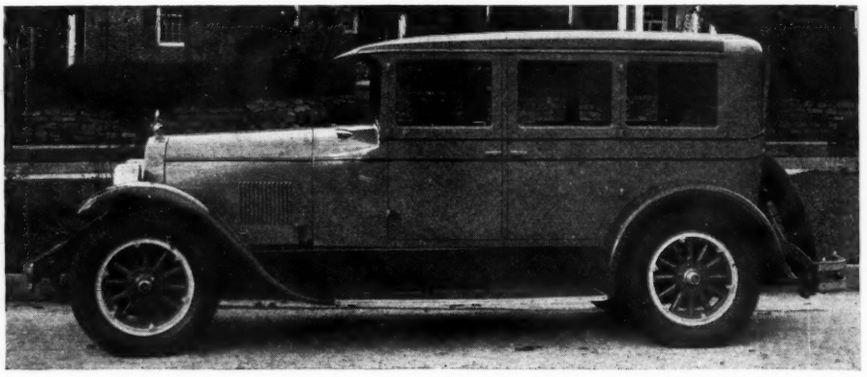
DuPont Offers 5-Passenger Convertible Sedan

By DONALD BLANCHARD

A FIVE-PASSENGER, four-door, convertible sedan priced at $3750 is the outstanding feature of the duPont line for 1927. This body is mounted on the standard 125 in. wheelbase chassis with six-cylinder, 3⅜ in. by 5 in. engine, as are the roadster, touring, coupe and sedan models, which complete the line. The last four body styles mentioned have undergone detailed refinement so that the complete line presents a materially enhanced appearance.

In designing a four-door convertible body, one of the problems presented is that of providing a central pillar between the two doors. This has been solved in the duPont design by means of a light, reinforced wood bow with which the central pillars are integral and which also serves as an additional top support. The ends of this bow member have a tapered dovetail mounting in the body and it is secured by thumbscrews. Removal is easy and provision is made for its storage in the top when folded. This is accomplished by proper proportioning of the folding top bows so that the necessary space is provided when the top is down.

The windshield is provided with a sun visor and its mounting follows customary closed car design. Its pillars are recessed to provide a track for the forward edge of the front door window.



The standard DuPont sedan for 1927

The rear edge of this window as well as the forward edge of the rear door windows slide in similar recesses in the central pillar while the rear edge of this window moves in a recess in the hinge-mounted pillar at the front of the rear quarter. The door windows all have metal framings which are finished in nickel plating.

It will be noted from the accompanying drawing that the top edge of the rear body panel is dropped below the level of the tops of the door. This feature adds materially to the appearance of the car when the top is down, as the folded top fits neatly into the space thus provided. As shown by the dotted lines, the seat back is carried up above the top of the rear body panel. A boot is furnished for the top. The trunk at the rear is covered with the same Burbank material used in the top.

Standard color on this model is Norse gray with red chassis and striping, and the upholstery is gray leather. However, as on all duPont models, many color and upholstery options are offered at no additional cost. Six wire wheels are included in the equipment on the convertible sedan and these also are finished in red. The two spares are carried on either side of the car just aft of the front fenders, the supports being brackets mounted on the frame side rails and extending through the splashers. Accessory equipment furnished is unusually complete and includes the same terms regularly furnished on other du Pont models.

Chrysler Offers New Body Models

AN entirely new body model added to each of the four lines of Chrysler cars and the adoption of 18 in. diameter wheels on the "60" and "80" chassis constitute the new features to be introduced by the Chrysler Sales Corporation at the National Automobile Shows.

To broaden the sales field for the "80" cars, a new standard five passenger sedan, listing at $2,675, the lowest priced closed car on this chassis, has been added to the line. With the exception of this particular model which is finished in a special shade of green and upholstered in a pleated mohair, a wide range of optional colors and upholstery is now offered on all Chrysler "80" models at no increase in cost. The construction and design of the new standard sedan follows the practice employed on the other models except it has a soft top and uses nickeled drum type headlights.

Coincident with the addition of a coupe with rumble seat on the "60" chassis, a new type of oval instrument panel indirectly lighted and embodying a gasoline gage, is fitted on all "60" bodies. With this new arrangement the manifold heat control and choke on one side and the lighting switch and ignition on the other are now mounted in separate oval panels to match the main center unit. Walnut panels are now fitted across the base of the windshield frame, which lends a distinctive touch to the interior of the cars. The new rumble seat coupe on the "60" line differs in appearance from the other closed body styles on the chassis inasmuch as it embodies the "cadet" type of sun visor introduced recently on the "Finer Seventy" series. Price on this model will be announced at the Show.

The new body model on the Seventy chassis is a four passenger coupe and

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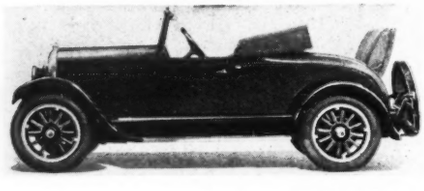
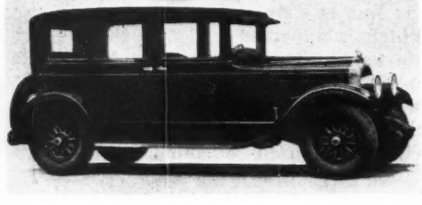


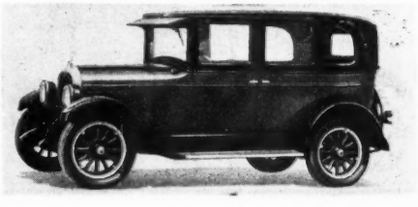
The roadster model with rumble seat on the Chrysler "50" chassis

The lowest priced closed car on the Chrysler "80" chassis. This model lists at $2,675



A new body model on the Chrysler "60" chassis is the coupe with rumble seat. This model embodies the "cadet cap" effect for the sun visor

The "50" landau sedan listing at $885 is the latest model to be added to this chassis



The READERS CLEARING HOUSE

Questions And Answers — On Dealers Problems

The Places to Lubricate Are Many

Q.—Please mail me greasing chart for the Cadillac car model 61.—Wm. Greub, 1002 West Avenue, Monroe, Wisconsin.

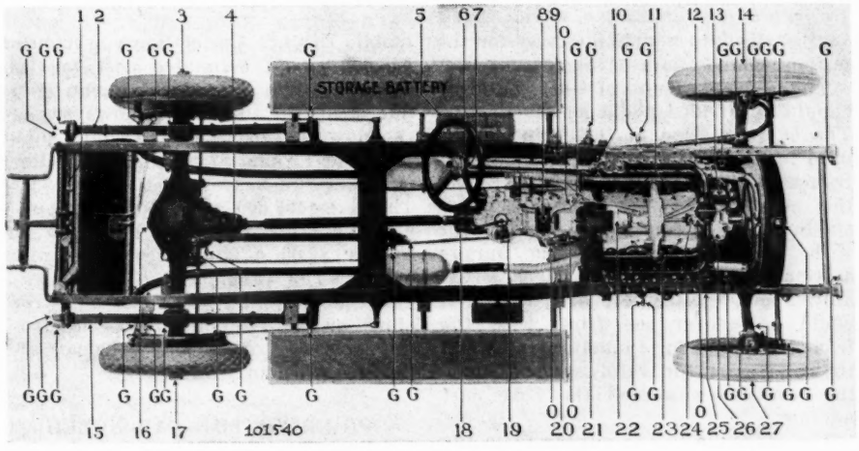
We are publishing this chart and wish to point out that the general principles of lubricating certain parts of the car at definite mileage intervals apply in general to other cars as well. The mileage at which various points should be given attention is as follows:

Every 120 Miles

Engine: 26.
Check quantity of oil in engine.

Every 500 Miles

Grease Gun Connections: G.
Springs: 1, 2, 12, 15, 25.
Brush engine oil on edges of spring.
Replace engine oil.
Add distilled water to storage battery. Also check every two weeks if mileage is less than 500 in that period of time.



Lubrication chart for Model 61 Cadillac

Every 1,000 Miles

Oil Cups: O.
Use a few drops of engine oil.
Universal Joints: 4, 18.
Fill forward and rear universal joints on drive shaft between transmission and rear axle. Detach cylindrical shield on forward joint and slide back over drive shaft. This is done after loosening the two screws which hold the shield and turning the shield through a small arc in a counter-clockwise direction.
Generator Oil Cups: 21, 22.
Use a few drops of engine oil.
Oil Holes at Steering Wheel: 6, 7.
Use a few drops of engine oil.
Engine Rear Supports: 9, 20.
Use engine oil at felt wicks in frame bracket to which engine supports are bolted.

Every 2,500 Miles

Transmission: 19.
Add lubricant to bring level up to filling hole at right hand side.
Rear Axle: 16.
Add lubricant to bring level up to filling hole in rear cover plate.
Timer and Distributor: 24.
Remove small breather at rear of distributor housing by unscrewing it and pack with distributor grease around the gears.
Valve Stems: 11, 23.
Oil valve stems.
Wheels: 3, 14, 17, 27.
Clean bearings and add lubricant.
Steering Gear: 10.
Speedometer Flexible Drive Shaft.
Remove and lubricate.
Clean and Lubricate Horn: 13.
Remove horn from engine and shell from the horn. Put a few drops of engine oil in front and rear ball bearings on the armature shaft.

Every 5,000 Miles

Clutch Thrust Bearings: 8.
Remove cover plate, turn clutch thrust bearing so that small filler screw is at the top. Remove the screw, attach grease gun and lubricate. Replace screw.
Clean Engine Lubricating System.
Clean out oil pan and screen and replace old oil with new.
Replace transmission lubricant: 19.
Clean out transmission and put in two quarts of suitable lubricant.
Replace Rear Axle Lubricant: 16.
Drain out old lubricant and replace with 5 quarts of suitable lubricant.
Credit line: The above information obtained from Cadillac Operators' Manual covering type 61.

Heldt Tells About Duralumin

Q.—I have a quantity of metal known as duralumin and would like to know if this could be cast into pistons for use in a race car. I understand this material is very tough and is used for aircraft work and it occurred to me that it might be suitable for pistons as I have had trouble with various types of pistons used in race cars.—Fred Kessler, 1257 Fillmore Ave., Buffalo, N. Y.

So far as we know, duralumin has never been used for engine pistons. Duralumin is the name of a class of aluminum alloys which are responsive to heat treatment, and as a rule are used only for parts calling for great mechanical strength, together with lightness. It is used almost exclusively in the form of sheets, bars and forgings, for although it can be cast, in the cast form it is no better than other aluminum alloys, which are cheaper.

The composition of duralumin is very nearly the same as that of some of the alloys used for pistons. For instance the Y alloy much used for pistons in Great Britain contains 4 per cent of copper, 2 per cent of nickel and 1½ per cent of magnesium, while duralumin (the different grades) contain from 3.5 to 4.5 per cent copper, 0.2 to 0.75 per cent magnesium and 0.4 to 1.0 per cent manganese, the balance being aluminum in both cases.

The heat expansion of duralumin is 0.00001256 in. per in. per deg. Fahr. which is the same as that of the usual piston alloys.

Magnesium is the alloying element which gives aluminum its bearing properties and as the magnesium content in duralumin is about the same as that of the regular piston alloys (the Lynite piston alloy contains 0.5 per cent) there seems to be no reason why the duralumin should not give satisfactory results as a piston material, but as stated, it has not been used for the purpose to any extent, and we can not therefore give an opinion based on practical experience.

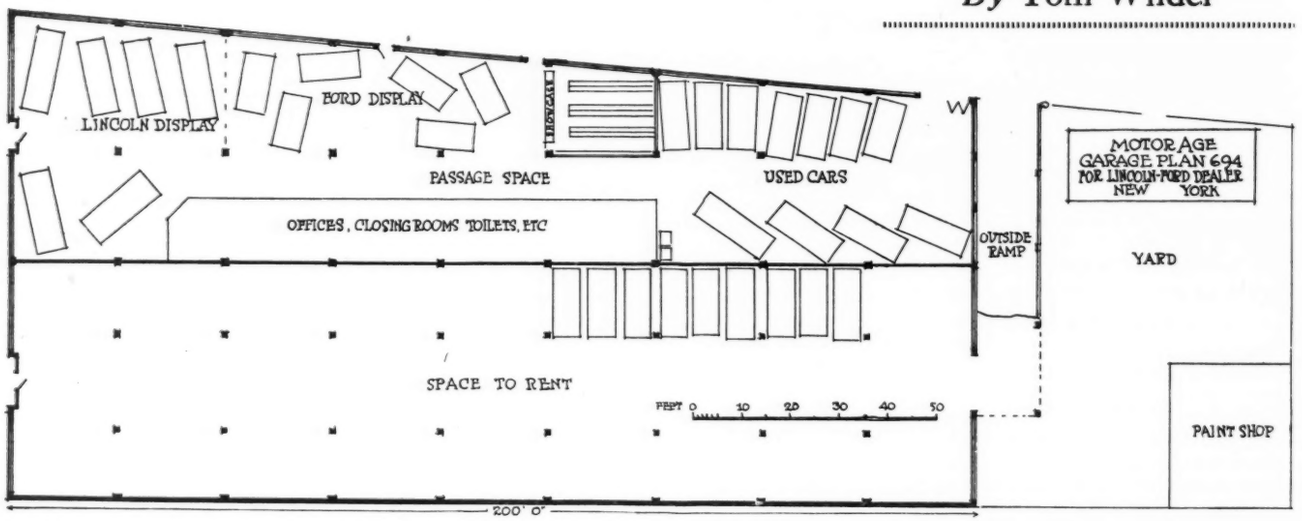
If the piston is made with a solid skirt the clearance allowance on the skirt would have to be 0.002 in. per in. of bore, and 0.010 in. more on the top land and proportionate amounts more on the intermediate lands. With a split skirt piston the clearance can be made 0.001 in. per in. of bore on the skirt.

The information given above is supplied through the courtesy of Mr. P. M. Heldt, Eng. Editor, Automotive Industries, Chilton Class Journal Co., Philadelphia, Pa.

Planning Your New Building

This Dealer Will Have a Garage to Rent

By Tom Wilder



We are not showing the second floor plan because it will be practically the same as this without columns except the row through the center

Q.—We would appreciate it greatly if you would make us a layout for a two-story sales and service station on a lot 100 ft. front, tapering to 79 ft. in the rear the depth being 265 ft. The building we have in mind to be about 200 ft. deep leaving a court in the rear. The width of the building in the rear would be 85 ft. In the court at the back is a garage now 30 ft. by 24 ft. The lot is on a corner and this small garage we wish to leave for a paint shop.

We would like to rent half of the lower floor and would like to have the side of the building on the corner for the two display rooms, Ford and Lincoln, a parts store and used car salesroom and offices. We have all of the upper floor for service and storage.

We would want a ramp to the second floor and would appreciate your advice on the advisability of a ramp outside the building proper.—New York Lincoln-Ford Dealer.

We have given the garage which you propose to rent more space than you have yourself on the main floor, for the reason that a space 50 ft. wide is about as narrow as is practical where there is no side entrance. Your own section, which will be used for showroom only is not hurt materially by the narrowness, except in the rear end where the used car showroom is installed.

Another reason for making the rented part 50 ft. wide is that some day you may transform this into a storage garage for your own use, or you might rent it to someone for a storage garage rather than sales and service. It is our opinion that it would be much better for this purpose than for sales and service since there is so much of the floor that will be dark. Over one-half of it will require artificial light and at all times. We are suggesting an entrance in front which can be altered very easily into a wide doorway for the purpose of use as a garage.

The second floor of this building should be divided about as the first is. The 50 ft. section at the back side is used for storage and it has a ramp entrance at the rear. The section facing the side street over the showroom should be used for service department with an entrance from the garage section at any convenient place, probably about the center, or perhaps it could be nearer the front with the front part used for Lincoln service and the rear part for Ford service, since the front is wide and the rear part narrow.

The entrance to the garage from the ramp will necessarily be quite wide since cars will enter the building with a turning movement which will carry them somewhat sideways.

A stairway will of course, be necessary, but its position will be determined more or less by the arrangement of the second floor.

You will undoubtedly need more stockroom space than we have shown, it being our idea to handle only the more common parts and accessories on the main floor, carrying the bulk of the stock on the second floor where it will not take up such valuable space.

The roof over the second floor should be trussed with two series of trusses having their abutting ends resting on the columns through the center. This row of columns coming in a partition would not be objectionable unless you should wish to divide the floor in some other way than that suggested.

In your letter to the National Automobile Dealers Association you mention $65,000 as an estimated cost for this building. We do not think you could put it up for that price, however, and the lowest estimate we would make would be around $75,000 but we believe it would run nearer $90,000 or $95,000. There are 37,600 sq. ft. of floor space and there are very few buildings put up for $2.00 a square foot and most of them run $2.50.

We do not believe there is any great objection to an outside ramp aside from the necessity of keeping it clean and free from ice in winter.

FIGURING THE CAR SPEED

Q.—How many miles per hour will a car go when the engine turns 2400 r.p.m., the wheel measures 8 ft. 7 in. around and the rear axle has a ratio of 4.08? Also how much faster would a car go if the axle ratio were 3.69?—Fred Croft, Fred's Service Station, Pontiac, Ill.

The formula is

$$S = \frac{R.P.M. \times D}{336 \times G}$$

Substituting the value of 2400 for the R.P.M. and 4.08 for the value of G and 27.3 for the value of D the diameter of the wheel, we find that the speed is 47.8 miles per hour. You will notice that the wheel diameter comes out very small so we wonder if you are correct about 8 ft. 7 in. being the distance around the outside of the tire. To get this figure of 27.3 we divided the distance around the tire by 3.1416. If you change the gear ratio as suggested you would get a speed of 52.8 miles per hour assuming the engine can still maintain its speed of 2400 R.P.M.

Answers to Readers' Questions

Engine Knocks and How to Find Them

Q.—We have in our shop a 1925 Buick Master Six that has been driven 28,000 miles. This car has developed a hard knock. The knock shows up on a hard pull but is not affected by the speed. The cylinder block has just been reground and new pistons, rings and piston pins fitted. It sounds very much like a main bearing knock although bearings have been tightened. The temperature of the engine seems to have no effect on the knock and carbon has been cleaned. —R. E. Peterson, Glencoe, Okla.

One possibility that occurs to us is a loose flywheel. It also occurs to us that you may have installed the pistons wrong. Inasmuch as the piston pin is off center it is necessary to get the pistons in the right way. The thick side of the piston should be left when viewed from the rear of the engine as would be the case with a mechanic sitting in the driver's seat and looking toward the radiator. If you can get the use of a knock tester which alternately applies pressure and suction to the various cylinders it will help a great deal. We are also giving a few suggestions in regard to general methods of testing for various types of knocks.

Main bearings are always loudest under a load or pull. In tone they are what might be classed as a dull pound or thud. When a main bearing is unusually loose it will be manifested not only by a decided dull knock but also by vibration of the engine when it is accelerated. Shorting out the cylinders adjacent to the defective bearing will usually enable the tester to locate it. Loose connecting rod bearings are generally loudest at an engine speed corresponding to 25 miles per hour, but may occur at about 20 and usually not over 35. Loose rods are very pronounced when easing off after accelerating and when coasting. In tone they are a light pound and sometimes a clatter. If completely burned out it will be heard at all speeds and under all conditions, even when cranking. Loose lower rod bearings are located by shorting out. On most engines the shorting out process will produce two knocks in the rod bearing but both will be of considerably less intensity than the original noise. Piston slap is sometimes mistaken for carbon knock. It will show up however, after carbon has been removed from the engine.

Piston slap can be located by opening the pet cock and shorting out the spark plug in the same cylinder. Another method is to pour about a tablespoonful of 600-W oil into the spark plug hole in the cylinder where trouble is suspected. This fills up the clearance between piston and cylinder wall and stops the slap in a few minutes. Timing gears usually make the most noise at idling speed. The noise may disappear above 15 miles per hour and come back strong at 25 miles an hour.

Loose piston pins are loud when idling, but may appear just as noisy at 20 to 30 miles per hour. Unlike loose rod bearings the piston pin will not become loudest when decelerating and usually will be less audible with retarded spark.

There are many other causes of engine knocks which are given on a list which is sent to MOTOR AGE readers on request.

WHO MAKES THIS CLUTCH

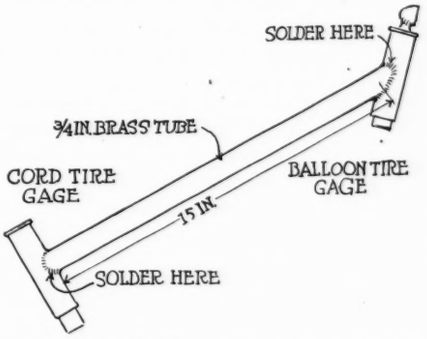
Q.—I have a 13 plate disc clutch in which both sets of discs are fitted to square steel keys. The outer keys are attached to the flywheel drum while the inner keys are attached to the transmission shaft spider. I wish you would tell me the name of the clutch or the name of the maker.—R. W. Tomlin, Sheridan, Ill.

The description is too general to enable us to determine the name of the maker. Possibly some clutch maker or some reader of MOTOR AGE will be able to put you on the right track.

SHOP KINKS
IDEAS
That have been Found Useful

TIRE GAGE FOR GARAGE

To keep the tire gages for high pressure and balloon tires from walking off I use a piece of ¾ in. brass tubing 15 in. long with tire gage brazed at each end. With the balloon tire gage on a 45 deg. angle it is more convenient for testing with disc and wire wheels.—Andrew G. Olson, 638 E. Court St., Viroqua, Wis.



Readers of MOTOR AGE *are invited to submit ideas that they have found useful in doing some particular service job in the shop in a better or quicker way. For each one published $2.00 will be paid. Whenever possible the idea should be accompanied by a sketch or diagram from which a drawing can be made.*

Burnt Car May Have Bearings Melted

Q.—We have in our shop a special six Stutz from which the sedan body has been burned. I wish to make sure that the chassis is O. K. and also wish to get an inexpensive speedster body for this car.—G. Contardi, L'Anse Oil Co., Inc., L'Anse, Mich.

Heat in the vicinity of the engine is likely to damage the bearings by melting out the babbitt and is also likely to damage the insulation in generator, starter and in the ignition unit. Would suggest dropping the pan and inspecting the main and connecting rod bearings at which time you can also tell whether the cylinder walls look black and burnt or whether there still appears to be oil on them. You might also try turning the engine over by hand to see if it turns smoothly and without any abnormal noise. Inspection might tell you something about the generator and starter or you might try them to see if they operate.

As far as the body is concerned do not know that you can get a body ready made for this car unless you do so by getting in touch with the Stutz factory. We will however, give by separate letter names of two or three body concerns.

WANTS TO USE STEEL SLEEVES

Q.—Would it be practicable to bush a cylinder with steel or wrought iron such as black iron pipe? How would a grey iron piston work in this cylinder? What would be the right clearance to allow?—A. R. Ernestdorf, Logan Machine Shop, Logan, Iowa.

Wrought iron is not a very good material to use where friction is encountered. However, we believe you will find the ordinary pipe you get is steel pipe as this is cheaper than wrought iron pipe. Liberty engines used steel sleeves with aluminum pistons so it is evident that this combination is satisfactory. In this case of course the aluminum is much softer than the material of the sleeve and if lubrication is insufficient the aluminum scores and the sleeve is uninjured. You do not say why you wish to use the sleeve, but we assume the engine has been bored out several times so that you hesitate to bore it again. If this is the case we believe it would be worth while trying the steel sleeve making sure that you do not get wrought iron as this is too soft. The combination of steel against cast iron for cylinders and pistons has been used, but not very extensively. We believe it would be satisfactory if lubrication is plentiful. The clearance would be conventional, that is, .001 in. for each inch of piston diameter.

Clearing Up Electrical Troubles

Edited By A. H. Packer

Who Knows Why the Positive Corrodes?

Q.—The writer would like to know why some makes of cars use the positive terminal of the battery as a ground connection and others use the negative. We would also like to know why the positive post always corrodes regardless of whether it is grounded or not.—The Mathews Garage, Mathews, Va.

We would also like to have a good theory on which to explain the corrosion of the positive terminal of a battery. At one time we figured it was due to some acid reaction. An experience observed on Dodge Brothers car however, leads us to believe that the acid has nothing to do with it. At one time the horn button operation carried current to the Dodge Brothers horn. The circuits were then changed so that the horn button completed the ground connection and the whole horn was always connected to positive battery. It was then found that trouble was experienced due to corrosion accumulating in the horn.

When the battery was reversed so that the negative terminal was connected to the horn and the positive was grounded the trouble at the horn was eliminated. In the operation of radio sets we find that static voltage produces results that we do not readily explain on our direct current theory. The basis of the vacuum tube for example where negative electrones or particles of electricity fly out of the filament and gravitate toward the plate which is positive, is a new theory and perhaps some day it will be extended so as to explain the point you brought out.

As far as grounding one post or the other of the battery there does not seem to be much reason for doing either unless it would be for some such reason as previously outlined. From the standpoint of direct current flow however, it does not make any difference.

PRIMARY RESISTANCE TOO LOW

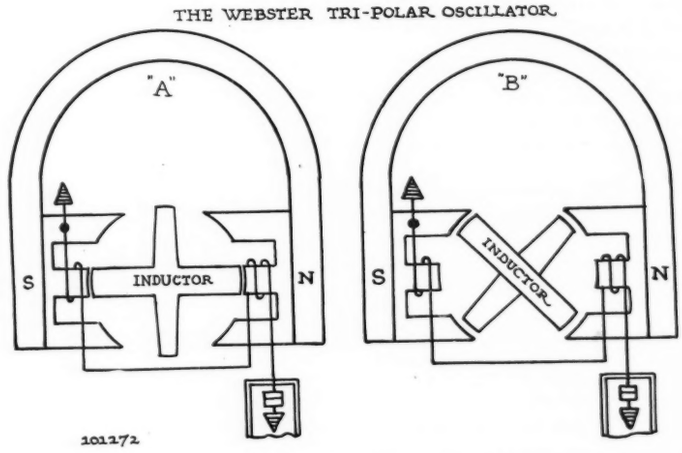
Q.—Can a Ford coil be used on an International stationary engine in case the regular coil is burned out? This engine I refer to does not have a spark plug but has make and break ignition. If this is possible, how is it done?—Tennessee Subscriber.

The Ford coil is not suitable but might work in an emergency. To use the coil you would block the points together so that they could not open. You would then have to connect wires to the upper contact at the side of the coil and to the contact at the bottom of the coil. The lower contact on the side of the Ford coil which is the high tension or secondary connection would not be used. Using the two contacts above referred to you would connect the coil in series with the make and break device and with the source of current. We believe that the Ford coil would draw too much current to give economical operation, although it might fire the engine satisfactorily.

TIMING OF BREAK IMPORTANT

Q.—We have a stationary engine which has a Webster oscillating type magneto which does not give spark enough. The magnets have been charged but this does not improve the operation.—Wm. A. Fowler, R. R. 2, Montrose, Iowa.

We are showing a diagram of this magneto and you will notice that the sudden turning of an inductor is employed to suddenly change the magnetism in the winding. Just as the change in magnetism is the greatest it is essential that the points open and for this reason the adjustment of the breaker device is most important. There is an arm which is held by two springs. This is known as the spring arm. When this is in the horizontal position and the springs are in a straight line the adjusting set screw should be turned until there is a space equal to the thickness of a sheet of writing paper between the end of the screw and the finger against which it operates. When this adjustment has been made the lock nut should be tightened so that the adjustment will not change. This adjustment is just as important as it is to have the magnets fully charged. If the magnets are O. K. and the adjustment is right and you still get poor results it may be that a coil is shorted or grounded.



Inductor position that produce the make and break spark

Two High Tension Terminals Used

Q.—Can you tell me if the Delco coil used on the Straight Eight Stutz and which fires two plugs in series has a specially designed winding so as to be able to fire these two plugs without injury to the coil.—West Coast Reader.

Probably the most outstanding difference in the Delco coil used on the Straight Eight Stutz is the fact that there are two high tension terminals and that the entire high tension winding is well insulated from the primary. While we do not have the exact engineering data on this coil it is quite probable that there are a few extra turns of wire in it in order to generate a little higher voltage so as to easily jump the two gaps. In connection with this higher voltage it would be necessary to provide a little better insulation than would be needed otherwise in order to prevent any possibility of break down by sparks jumping from the secondary to the primary.

TO BRIGHTEN THE "DIMS"

Q.—How can I obtain brighter "dims" on an Oldsmobile six, 1924?—Willard Moody, St. Charles, Ill.

The dim lights are obtained by means of a resistance on the back of the lighting switch. If you will take this resistance coil and cut off a small amount of the wire you will find that the lights are brighter. The coil should be changed a little at a time until you get the brightness you wish. Ordinarily however, the resistance is properly designed unless you have used bulbs which are too large.

NEW REO IS THE "FLYING CLOUD"

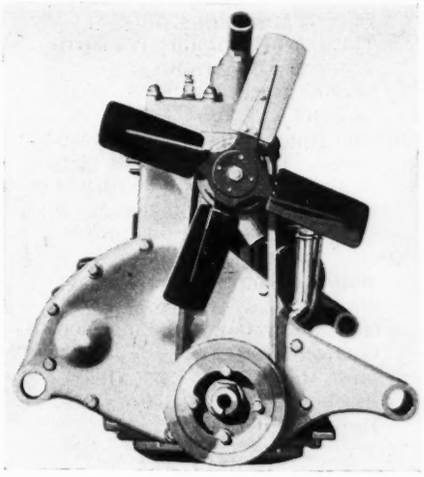
a softer engagement. Positive lubrication for the Nice ball throwout bearing and the clutch sleeve is insured by an oil reservoir having an oil wick feed to the sleeve mounted on the shaft just to the rear of the bearing.

The transmission of Reo make and of the selective sliding type provides the following gear ratios: Low, 3.26 to 1; second, 1.73 to 1; third, direct; and reverse, 4.136 to 1. The forward end of the clutch shaft is carried in a plain bronze bushing in the end of the crankshaft while at the rear it is mounted in the transmission case on a New Departure ball bearing. The front of the main transmission shaft runs in a plain bronze bushing in the end of the clutch shaft while it is carried on a New Departure ball bearing at the rear. The cluster gears fitted with bronze bushings rotate on the stationary countershaft. A transmission lock forms the only thief-resisting device on the chassis.

Drive to the rear axle is through two metal universal joints of Universal make and a tubular propellor shaft. The Reo make rear axle is of the semi-floating type with the usual spiral bevel drive providing a 4.58 to 1 ratio for the closed cars and a 4.25 to 1 ratio for the roadster. Propulsion and torque is taken by the Hotchkiss drive. A feature of the rear axle is the pinion mounting in which no adjustment is made for moving the pinion gear. The differential carrier is bolted to the pressed steel banjo housing in the usual manner. A separate casting providing a straddle type mounting for the pinion is bolted to a flange on the front part of the differential carrier. The integral pinion and shaft carried in the separate casting is mounted at the straddle end on a single row Standard make ball bearing and at the main end on double row bearings of the same make and type. In manufacture the pinion position is set by a gage so that it is properly located with respect to the axis of the differential unit. Shims are inserted between the pinion unit and the differential carrier to give proper alignment. By providing the usual form of adjustment for the ring gear only, the manufacturers claim a better and simpler adjustment of the axle gears can be made. The differential unit is carried on Timken taper roller bearings of the same type as employed at the wheel ends of the 1½ in. diameter axles. Road clearance of the rear axle is 8½ in.

The front axle of the "I" beam type

(*Continued from page 20*)



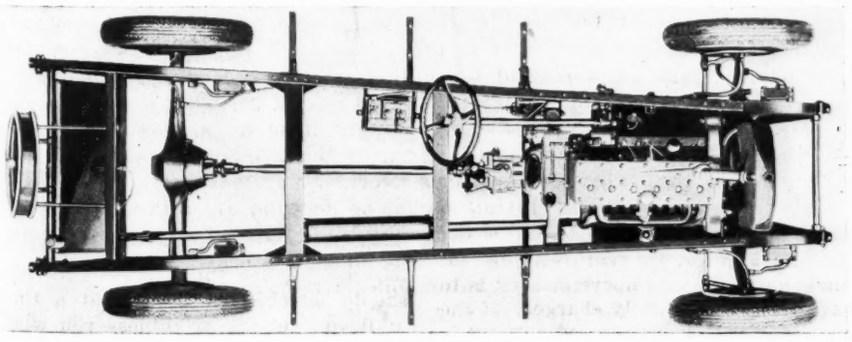
Front view of the new Reo engine

has a reverse Elliot spindle mounting. Both upper and lower ends of the ¾ in. diameter king pins are mounted in bronze bushings with the thrust taken by a radial ball thrust bearing. The spindles are given a transverse inclination of 2½ deg. with the king pins inclined at 7½ deg. The castor angle is 1½ deg. The Ross make "E" steering gear of the cam and lever type provides a ratio of 12 to 1 at the ends with the ratio at the center 16 to 1. From the locked to locked position of the wheels the 18 in. diameter steering wheel requires 2½ turns. Spark, throttle and lighting switch controls are mounted in the center of the wheel.

As already mentioned the four wheel braking system is of the new type internal shoe Lockheed-Hydraulic type. Reo is the first company to adopt the new type Lockheed brakes. The particular feature of this system is that dirt and moisture are prevented from coming in contact with the brake lining while the placing of the operating cylinder inside the wheel prevents damage and reduces the possibility of foreign matter interfering with its mechanism. It is claimed this system has a higher degree of efficiency than the usual externally operated Lockheed brakes and that the effectiveness of the brakes with the car in reverse motion is the same as when the care is traveling forward. The two cast aluminum shoes in each wheel are anchored on separate pins at the bottom of the brake cover plate with the cylinder expanding the shoes carried at the top. External adjustment is provided for each shoe.

One flexible rubber hose only connects the chassis piping with the rear brakes. The hose joins with a 'tee" joint near the left spring pad on the axle and from this point the fluid is led to the left wheel cylinder by a short pipe, while another copper tube secured at intervals to the banjo housing connects with the right cylinder. To prevent possible damage to this tubing by stones flying up from the road the copper lead is reinforced by steel wire covering. All four drums are 14 in. diameter with the brake lining 1¾ in. wide by $\frac{3}{16}$ in. thick. The total braking area of the service brake system is 208.24 sq. in. The hand brake operates an external band on a 7 in. diameter drum behind the transmission. The braking area is 49.22 sq. in. while the lining is 2½ in. wide by $\frac{3}{16}$ in. thick.

Chassis springs of the semi-elliptic type are underslung at the rear axle and overslung at the front. Those on the front are 37 in. long and have 8 leaves with the rear springs 55 in. long and having 10 leaves. Both springs are 2 in. wide and secured to the frame by the usual form of shackle bolts of .625 in. diameter. Seven cross members are provided in the Smith make pressed steel frame which has a 6 in. depth and of $\frac{5}{32}$ in. stock. Mountings are provided on the spring horn castings for the attachment of bumpers. The usual kick-up is embodied for the rear axle. Artillery wheels 18 in. in diameter, of Motor Products make, carry 4 in. base split Firestone rims while the straight side tires are formed of four plys. Standard tire size is 30 by 6.20 in. with the roadster carrying 30 by 6 in. Chassis lubrication is by the Zerk pressure gun method.



Plan view of the Reo chassis. This view shows the unusual method of securing the powerplant to the frame. Rubber bushings are inserted between the arms and supports

Chrysler Offers New Body Models

(*Continued from page 22*)

of the same general design as the other models in this line. On the "50" chassis a Landau-Sedan listing at $885 is the new model. This car is of the full five passenger type having four doors and landau bows over the "D" shaped rear windows.

With the adoption of 18 in. wheels on the "80" and "60" chassis, the tire sizes on these two models are now 30 by 6.75 in. and 28 by 5.25 in. respectively. Eighteen inch wheels were introduced first by Chrysler with the announcement of the "Finer Seventy" four months ago.

Leather upholstery for the "50" sedan and coach, "60" coach and sedan, and for the "70" brougham, is offered at an additional cost, while any of the four chassis may be equipped with a set of wire wheels as extra equipment.

Presentation of the two roadster models with rumble seats on the "50" and "60" chassis and listing at $795 and $1175 respectively will be made formally at the National Automobile Shows.

EVENTS IN CONNECTION WITH THE NEW YORK SHOW

FRIDAY, JAN. 7

Studebaker Corp of America, Dealer Banquet, Plaza Hotel ..... 7 P. M.

MONDAY, JAN. 10

Automotive Electric Association, Board of Governors' Meeting, Astor.

Elcar Motor Co., Sales Meeting, Astor ..... Morning

Hupp Motor Car Corp., Luncheon, Commodore ..... 12:30 P. M.
General Meeting, Commodore ..... 2:30 P. M.

John N. Willys, Luncheon to News and Trade Paper Men, Biltmore ..... 12:30 P. M.

National Automobile Chamber of Commerce, Third World Motor Transport Congress, Roosevelt.

National Automobile Dealers' Association, Convention, Commodore ..... 10:00 A. M.

Rubber Association of America, Meeting and Banquet, Commodore.

Society of Automotive Engineers, Metropolitan Section Meeting, Commodore.

TUESDAY, JAN. 11

American Automobile Association, Contest Board Meeting.... 10:00 A. M.

Automotive Electric Association, Advertising Committee Meeting, Astor ..... 10:00 A. M.

Geo. W. Davis Motor Car Co., Distributors' Dinner, Commodore ..... 7:00 P. M.

Elcar Motor Co., Sales Meeting, Astor ..... Morning

Hupp Motor Car Corp., Luncheon, Commodore ..... 12:30 P. M.
General Meeting, Commodore ..... 2:30 P. M.

National Automobile Chamber of Commerce, Directors' Meeting, Engineer Societies Bldg.
Third World Motor Transport Congress, Roosevelt.
Service Meeting.
Banquet.

National Automobile Dealers' Association, Joint Service and Shop Equipment Meeting with M. and A. M. A. and the N. A. C. C., Commodore ..... 10:00 A. M.

National Automobile Dealers' Association, Convention, Commodore ..... 5 P. M.

Oakland Motor Car Co., Luncheon, Commodore ..... Noon

Packard Motor Car Co., All-Day Sessions for Distributors and Dealers, Biltmore.

WEDNESDAY, JAN. 12

American Automobile Association, Board of Directors' Sessions ..... Morning and Afternoon

Auburn Automobile Co., Luncheon, Commodore ..... Noon

Cadillac Motor Car Co., Banquet, Biltmore ..... 7:30 P. M.

Chevrolet Motor Co., Meeting, Mecca Temple ..... Afternoon
Banquet, Commodore ..... Evening

Chrysler Sales Corp., Dealer Luncheon, Commodore ..... 1:00 P. M.

Elcar Motor Co., Sales Meeting, Astor ..... Morning
Dealer Meeting and Lunch, Astor ..... Noon

H. H. Franklin Mfg. Co., Luncheon and Meeting, Commodore ..... 1:00 P. M.

Hupp Motor Car Corp., Luncheon, Commodore ..... 12:30 P. M.
General Meeting, Commodore ..... 2:30 P. M.

Motor and Accessory Manufacturers' Association, Directors' Meeting ..... Morning
Meeting and Election of Officers, Astor ..... 2:00 P. M.
Dinner.

Nash Motors Co., Luncheon, Pennsylvania Hotel ..... Noon

National Association of Automobile Show & Association Managers, Meeting.

Olds Motor Works, Meeting, Commodore ..... 2:00 P. M.
Eastern Dealers' Dinner, Commodore ..... Evening

Willys-Overland, Inc., Luncheon, Roosevelt ..... 12:30 P. M.

THURSDAY, JAN. 13

American Automobile Association, Board of Directors' Session ..... Morning

Elcar Motor Co., Sales Meeting, Astor ..... Morning

Hupp Motor Car Corp., Luncheon, Commodore ..... 12:30 P. M.
General Meeting, Commodore ..... 2:30 P. M.

Overseas Automobile Club, Dinner and Meeting. Export Managers and Executives and Overseas Visitors, Hotel Empire ..... 6:30 P. M.

Packard Motor Car Co., All-Day Sessions for Distributors and Dealers, Biltmore.

Paige-Detroit Motor Car Co., Luncheon, Commodore.

Peerless Motor Car Corp., Dinner, Commodore ..... 6:30 P. M.

Society of Automotive Engineers, Dinner, Astor.

Velie Motors Corp., Luncheon, Commodore ..... 1:00 P M.

Glass Replacement Service

(*Continued from page 17*)

Inspect the lift to see that it operates freely. Also the lift should operate without side thrust or uneven motion. Generally a liberal oiling will suffice on this part, but if the mechanism is in bad order it should be fixed before the glass is put in.

Also channels that are badly worn should be replaced, or if loose should be secured in place.

Where the windshield glass is carried in a metal liner no tape or felt is used. The light metal liner should be carefully fitted around the replacement glass and then the windshield frame should be pressed into place until it fits snugly.

In installations that do not use a metal liner all broken glass should be removed from the frame. Then glazing felt should be used to secure the glass to the frame.

The use of pitch or adhesives is undesirable in glass service as such material is messy to handle and very difficult to remove in the event of future breakage.

On one piece windshield work, such as is found on Fisher bodies, the procedure is just the same as that outlined for replacing glass in doors or side windows.

Generally, dealers in some one or two makes of cars find it worth while to stock glass ready cut to fit the different models that they handle. General garages could hardly hope to have such a plan prove practicable except for a few cars. For them it is fortunate that very excellent glass edging machines are available at surprisingly moderate prices. These machines also prove valuable on special jobs and on commercial body service.

Cutting glass is like handling a horse—fear will cause your downfall. The man who boldly makes his mark on the glass and sharply taps it seldom spoils a piece. It is the fellow with the big rubber mallet and fearful touch that generally does the damage.

One thing to point out is that *very few lights of glass are square.* Accordingly it is of utmost importance that an exact pattern of the window be made and the glass cut on this pattern.

The cutting should be done on an even surface that is padded with a sheet of felt. Cutting is greatly facilitated by working on a glass board.

Wherever automobiles are operated there is a market for glass service. Think of the cars that you have recently seen and you will probably consider the estimate of one glass breakage per year for every 5 cars to be very conservative.

The Orderly, Well Arranged Display is a Powerful Salesman for the Automotive Merchant

In contrast with the old method of a concealed stockroom with make-shift wooden bins is the modern method of steel shelving with divisions to fit all articles of stock, all out in the open. Counter sections with special corner units; shelving sections, special ends sections, shown in center photo, and glass racks all display their wares to the customer in a most effective manner.

SHOWS ATTRACT SHOPMEN

Expect Big Attendance of Maintenance Forces

Jobbers and Their Salesmen in Each National Show Zone Cooperating

NEW YORK, Dec. 24.—According to all indications the two national automobile shows in 1927 will be visited by a representation of the maintenance division of the trade far surpassing any previous show years. Special provisions for showing and demonstrating service equipment are expected to develop extraordinary interest in the shows on the part of shop men who will be afforded the advantage of comparing and inspecting practically every device for speeding up automotive service, numbers of which will be powered for actual operation.

All available space in both the New York and Chicago shows has been taken. Trade day tickets and shop equipment credentials have been sent to the entire trade, according to an announcement from national show headquarters. Figuring importantly in efforts to make a success of the shop equipment section are the activities of some 300 jobber salesmen in each of the two national show territories who have been campaigning intensively among customers to bring out big trade attendances.

Show officials speak in highly complimentary terms of the co-operation of jobbers in the general effort to make the equipment section a source of great benefit to all elements of the industry and trade.

The shop equipment section of each show will be open to the trade exclusively from 10 A. M. to 3 P. M. daily, and to the public from 3 P. M. until the hour of closing. The New York Show, Jan. 8-15, opens at 2 P. M. Saturday Jan. 8 and at 10 A. M. daily thereafter, except Sunday, closing at 10:30 P. M. daily. The Chicago show, Jan. 29-Feb. 5, also opens at 2 P. M. Saturday and opens daily thereafter at 10 A. M., except Sunday, closing daily at 10:30 P. M.

Trade days at New York will be Monday and Tuesday, Jan. 10-11. At Chicago trade days will be Monday and Tuesday, Jan. 31 and Feb. 1. Between the hours of 10 A. M. and 1 P. M. on these days only members of the industry and trade will be admitted.

30 Service Stations Signed

ROCHESTER, N. Y., Dec. 24.—Thirty North East Service Station appointments were made in November, the North East Electric Co., of Rochester, announces.

Discuss Hupp's 1927 Plans

DETROIT, Dec. 24.—An aggressive advertising and sales campaign by the Hupp Moto Car Corp. in 1927 was discussed at a recent meeting of Hupmobile district sales managers held in Detroit. The meeting lasted two days. The first day was devoted to service and sales policies while the second day was given over to the subject of advertising.

Rufus S. Cole, general sales manager, Frederick Dickinson, advertising manager, and other executives presented plans for greatly increasing advertising schedules as well as for intensive follow-up and educational work in the field.

Participating in the meeting was H. E. Rose, who was recently appointed sales promotion manager, filling the vacancy in this position caused by the promotion of Mr. Cole to general sales manager. Mr. Rose had been sales manager for the Van Alstyne Motor Corp., Hupp distributors in New York.

November Slowest Month

NEW YORK, Dec. 24.—The November recession in automotive parts and accessory business was more than seasonal in volume, according to the Motor and Accessory Manufacturers Association, which reports that sales during the eleventh month dropped to the lowest point this year.

Original equipment shipments were unfavorably affected by the curtailment of motor car and truck production in November and December and sales to the trade reacted from abnormally high levels of late summer and early fall.

Parts and accessory manufacturers reported business as picking up somewhat this month, especially original equipment. This was attributed to an anticipated increase in automobile production after the first of the year.

C. G. Dividends

DETROIT, Dec. 22.—Directors of the C. G. Spring & Bumper Co., have declared a dividend on the common stock of 10 cents quarterly, payable Feb. 15, to stockholders of record Feb. 8. Besides the regular dividend an extra dividend of 5 cents was also declared payable Feb. 15, making the total dividend for the quarter, 15 cents. The stock dividend of 3 per cent on stock of record Feb. 6, will also be paid Feb. 15, this being the final installment of the 10 per cent stock dividend declared May 4.

Hudson Closes for Holidays

DETROIT, Dec. 23.—Hudson Motor Co. will close Dec. 24 for Christmas vacations and will open Januuary 3 with a schedule of 11,000 cars for January.

$35,000,000 Back Tax Hearings Start Jan. 11

Former Ford Shareholders Challenge Right to Reopen Cases

WASHINGTON, Dec. 24.—The Treasury Department will begin hearings Jan. 11 before a division of the Board of Tax Appeals sitting in Detroit, in its proceedings to collect approximately $35,000,000 in taxes alleged to be due on profits arising from the sale of Ford Motor Company stock in 1919, it was announced here by Alexander W. Gregg, general counsel for the Bureau of Internal Revenue.

Two points are involved in the cases, Mr. Gregg said: Whether the Bureau of Internal Revenue had the right to reopen the cases, which were closed, as it did in each instance, when the taxes had been assessed and paid, and, what the value of the Ford Motor Company stock was on March 1, 1913, the date fixed by law for calculation of values upon which profits arising later might be computed.

The records before the Board of Tax Appeals disclose the following petitioners together with the shares of the Ford Motor Company stock involved and the amount of tax in controversy:

James Couzens, United States senator from Michigan, 2,180 shares, $10,909,588.08 tax.

John W. Anderson, 380 shares, $1,438,826.35 tax.

David Gray, 525 shares, $2,277,079.88.

Estate of Philip H. Gray, 525 shares, $2,277,079.88 tax.

Estate of John W. Dodge, 1,000 shares, $5,004,398.08 tax.

Estate of Horace Dodge, 1,000 shares, $5,004,398.20 tax.

Horace H. Rackham, 1,000 shares, $5,004,398.20.

Paul R. Gray, 525 shares, $2,277,079.88 tax.

Mrs. Rosetta V. Hauss, 20 shares, $84,404.83 tax.

Hits at Stock Dividends

WASHINGTON, Dec. 24.—An investigation into alleged evasion of tax payments by automotive and other big corporations, through the expedient of voting large stock dividends—recently declared non-taxable by the U. S. Supreme Court of the United States—was requested under a resolution introduced in the Senate by Senator Norris of Nebraska.

Senator Norris' resolution called on the Federal Trade Commission to furnish the Senate with a report of all stock dividends since the court decision, with the capitalization of the automobile or other corporations issuing them.

Dodge Brothers Stage Convention Next Week

Nearly 5000 Dealers and Others Will Attend Detroit Gathering

DETROIT, Dec. 27.—Nearly 5,000 representatives of Dodge Brothers, Inc., are expected to attend the company's twelfth annual convention of the dealer organization which meets in Detroit Jan. 5-6. In addition to Dodge Brothers and Graham Brothers dealers from the United States, it is said nearly 100 Canadian representatives will be on hand as will delegates from foreign countries.

The meetings are to be held at the Masonic Temple, including business sessions and entertainment features. A banquet will be one of the high spots.

While the dealers are in Detroit Dodge Brothers, Inc., will stage its annual dealer automobile show, displaying Dodge Brothers cars and Graham Brothers trucks. One of the interesting features will be a display of touring cars of each year's issue from 1914, when the first Dodge Brothers car was made.

Following the convention many of the dealers and factory executives will leave for the New York show.

In Good Shape for New Year

TOLEDO, Dec. 24.—According to a statement by John N. Willys, president of Willys-Overland, Inc., sales of Willys-Knight and Whippet cars for the past 30 days have exceeded shipments from the factory by approximately 1000 cars a week. Dealer stocks, says Mr. Willys, have been steadily dwindling since Sept. 1, retail sales having been in excess of factory shipments for three months. He regards the Willys-Overland dealer organization in healthy shape for the new year's business. Enlarged production starting immediately is scheduled. Mr. Willys declares the company "has every reason to believe that the next 12 months will be a highly prosperous period for the entire Willys-Overland organization."

Given Charge of Branches

CHICAGO, Dec. 24.—Appointment of F. W. Webster as manager of the General Motors Truck Company factory branch in Denver has been made by P. L. Emerson, vice president in charge of sales. Mr. Webster has been engaged in sales and research work for the Yellow-Knight truck in the northwest.

Mr. Emerson also has announced the appointment of Joe Davis as factory branch manager for the General Motors Truck Co. in San Francisco. In addition to earlier automotive connections Mr. Davis was recently associated with the Reo Motor Car Co. of California.

Lay Sales Campaign Plans

GREENSBORO, N. C., Dec. 24.—Preparations for increased selling efforts in this state were made at a conference here of representatives of the sales and service departments of the Carolina Cadillac Company, of Winston-Salem, distributor, with branches at Charlotte, Durham, Raleigh and Greensboro, all of this state. The principal address was delivered by F. D. Akers, of Detroit, district sales manager of the Cadillac Motor Company. K. E. Shore, of Winston-Salem, president of the Carolina company, presided at the meeting.

Bakewell With Bunting

TOLEDO, Dec. 24.—George M. Bakewell is the new head of the Export Department of the Bunting Brass & Bronze Company of Toledo. Mr. Bakewell was formerly overseas reresentative of the Champion Spark Plug Company.

Will Attend N. Y. Show

SYRACUSE, Dec. 24.—Every member of the Syracuse Auto Dealers' Association will attend the New York show. This was decided at a recent meeting.

Business Conditions

Department of Commerce Gives View of Current Situation

The dollar volume of trade during the third week of December, as seen from figures on check payments, was greater than in the preceding week, but smaller than in the corresponding week of 1925, according to the weekly statement of the Department of Commerce. Contracts awarded for building construction were higher than in either the previous week or the same week of 1925. Petroleum production registered a new high mark. Wholesale prices continued to decline, being lower than at any time since the middle of August.

Production of bituminous coal and beehive coke during the second week of the month was smaller than in the preceding week, but bituminous-coal output was larger than during the corresponding week of 1925. Lumber production during the second week was smaller than in either the previous week or the corresponding week of the previous year. Carloadings during the same week were smaller than in either the previous week or the same week of 1925.

Loans and discounts of Federal reserve member banks increased in the third week over both the previous week and the corresponding week of 1925. Interest rates, both on call loans and time money showed no change from the previous week but were generally lower than a year ago. Business failures were less numerous than in either the previous week or the third week of December, 1925.

Entries Being Sent Out for Indianapolis Derby

May Race Offers Unusual Inducements to Drivers from Other Lands

INDIANAPOLIS, Dec. 24.—Entries for the Fifteenth Annual International Sweepstakes of the Indianapolis Motor Speedway, are being sent out from the speedway office here. The date of the 500-mile race, May 30, 1927, falls on Monday. The entry list will be open from now until midnight of May 2. After that no further drivers will be able to enter. The blanks this year will not only go to every American Automobile Association driver in the United States, but also to Europe. Under a closer arrangement between the A. A. A. and the Recognized Automobile Clubs of Europe continental drivers will have more inducement than ever before to enter the Indianapolis classic.

The 1927 race will be the second one in which the 91½ cu. in. displacement cars will participate.

Experts are predicting that the small cars have now passed through the first experimental year in which the "bugs" have to be worked out and that the average for the race will be around the 100-mile mark. Last year Frank Lockhart, in a Miller Special, won the race with an average of 95.885 miles an hour. The track record was made by Pete De Paolo in a Duesenberg Special in the 1925 race, 101.13 miles an hour.

Velie Sales Score Record

MOLINE, Ill., Dec. 24.—Velie sales for November, 1926, exceeded those of the same month of 1925 by 33 per cent, L. F. Murphy, general sales manager of the Velie Motors Corp., announces. Velie looks for 1927 to be the biggest year in its history.

November Sales Drop

DETROIT, Dec. 24.—New car sales in Michigan registered a sharp decline in November. Sales for the month for all makes aggregated 6,835 units compared with 11,328 cars for the same month a year ago. Despite a dropping off in sales the total for the first 11 months of 1926 exceeds the corresponding period in 1925. Sales during the first 11 months total 186,747 compared with 180,153 in 1925.

Hinkley Sells to B. A. Small

JACKSON, Mich., Dec. 24.—C. C. Hinkley, president of the Hinkley Motors and Parts Corp., which recently moved here from Detroit, announced that he has sold his entire interest in the company to B. A. Small of Philadelphia. It is understood plans are being made to resume operations of the Hinkley plant. The company's factory was recently destroyed by fire.

Liability Risk Rates on Trucks to Be Increased

Underwriters Contemplate No Change in Present Car Schedules

NEW YORK, Dec. 24.—New rates for public liability and property damage insurance, which are to be formally announced next month, will be somewhat higher on the average for motor trucks and delivery wagons but substantially the same for passenger cars, it was announced at headquarters of the National Bureau of Casualty & Surety Underwriters.

The new rates are based on a study of automobile accident insurance covering the years 1922 to 1925, inclusive. The rates on trucks and delivery wagons will average an increase of 7.6 per cent for personal injury coverage, and 8.4 per cent for property damage. It was explained that these are averages only and in some instances increases will be very much higher, while there will be corresponding decreases elsewhere.

According to H. P. Stellwagen, secretary-treasurer of the National Bureau, approximately 18 per cent of the cars of the country are covered for public liability and 16 per cent for private damage.

The experience of garages and automobile dealers is now being studied by the bureau's experts, and it is expected that changes in the present rates will be announced within the next few months.

The new rates to be promulgated by the National Automobile Underwriters Conference, which group specializes on fire and theft insurance, will not be announced until late in January or early in February, officials of the conference said.

Sales Drop 46 Per Cent

INDIANAPOLIS, Dec. 24.—The new car sales report for Indiana in November, compiled from registration statistics by the Indianapolis Auto Trade Association, indicates a drop of 46 per cent under the total for October. October's total was 7206 and November's 3860. The slump hit practically all makes.

Employment Drop Is Seasonal

WASHINGTON, Dec. 24.—A seasonal decline in every branch of the automotive, tire and body building industries, is reported in the December employment survey, announced here by the U. S. Employment Service. The department says that "automobile factories and accessory plants temporarily reduced their forces during the past two weeks; however, all indications point to a recalling of these workers in the near future.

Front Wheel Brakes Added to Oldsmobile

(*Continued from page 21*)

pyralin windows are designed for use when the top is in the folded position, so as to provide wind protection for the occupants. When not required the side curtains are stored in a compartment behind the rear seat back cushion. that when the engine is placed in the engine mounting brackets the collars Leather upholstery is employed for the seats and cushions.

Better riding qualities are claimed for the new cars through the use of 30x5.25 in. tires in place of previous 30x4.95 in. tires which permits the use of 1 in. smaller diameter wheels. Other changes on the chassis are a new method of securing steering gear in which the mounting is slipped into trunnion and bolted on the chassis side rail instead of being clamped on the trunnion. The battery carrier has been altered also so that a rubber case battery of the type used by Chevrolet may be employed.

Several changes have been made also in the engine, two of which are said to have added materially to its power output and smoothness. A Johnson, Model H carburetor of 1 in. outlet diameter and developed specially for the Oldsmobile engine, replaces the former make and type employed. The new carburetor of lighter construction and embodying an economizer, is of the air valve type. Due to the horizontal position of this valve, the air cleaner is now mounted in the upright position and is connected to the carburetor by a vertical tube. A change in the combustion head contour is stated to have added materially to the smooth operation of the engine. To prevent the oil surging away from the oil pump when the brakes are applied suddenly, special baffles have been installed in the oil pan to insure an adequate supply of oil to the pump under all conditions.

Bodies and equipment of the 1927 series correspond in practically every respect with those forming the 1926 line. Equipment on the new de luxe touring includes front and rear bumpers, trunk and rack, motometer, cowl lights, rear view mirror, stop light, and automatic windshield cleaner.

Walton Leaves James

DETROIT, Dec. 24.—The resignation of Thomas R. Walton, secretary-treasurer of the James Motor Valve Co., is announced by John H. James, president of the company. The resignation is effective Jan. 1. Mr. Walton has been associated with the James Motor Valve Co. since its formation six years ago. His severance with the company, says Mr. James, is the result of a major change in sales policy which Mr. Walton initiated. Mr. Walton will announce his future plans upon return from a vacation in the Bermudas. He is well known in the industry and has been an active member of the National Standard Parts Association.

Better Merchandising Is N.A.T.A. Objective

Directors Subscribe $500 Each for the Aid of Organization Work

AKRON, O., Dec. 24.—Better co-operation among tire dealers and manufacturers is expected to result from a conference in Akron at the City Club attended by the new directors of the National Tire Dealers Association and executives of leading rubber companies of the United States.

Measures agreed upon will tend to place the merchandising of tires, tubes and accessories on a higher plane, it is stated, and should smooth out the difficulties which have arisen from time to time between dealers and manufacturers in handling sales problems.

The N. T. D. A. directors subscribed $500 each to aid in organizing the association on a sound financial basis. A step in this direction was made at the recent annual convention in raising the dues.

Plans were further outlined for the campaign to educate the dealer along the lines of doing business in a business way by the dissemination of helpful information on cost accounting; etc.

"I hope to bring about a condition whereby the public will recognize the insignia of the association as representing good reliable merchants," said Hubert V. Eva, new president of the N. T. D. A.

The association leaders plan a vigorous membership drive during the coming year. An important resolution adopted at the recent convention in Memphis, Tenn., which will be stressed in N. A. T. A. campaigning was that the association membership should refrain from the trading-in of used tires, "recognizing the tremendous losses incurred in the automobile industry through promiscuous trading of new merchandise for old."

Moon Builds Annex

ST. LOUIS, Dec. 24.—Moon Motor Car Co. has begun construction of a large building to be used as an annex to its final test division. With this addition it is said there will be materially enlarged provisions for accommodating dealers wanting to drive cars from the factory. The new building will be located just north of the present final test division and have about 7000 square feet of floor area.

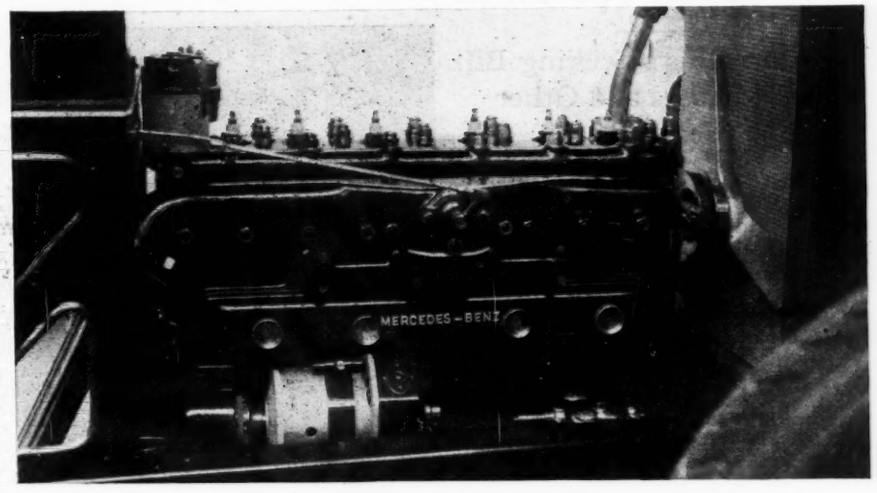
Suttles Makes Shift

CLEVELAND, Dec. 24.—J. B. Suttles, former St. Louis salesman for the White Company, has been appointed district manager at Indianapolis under the direction of Vice-President George F. Russell. Mr. Suttles takes the place of F. W. Balser, who goes to Chicago.

780 EXHIBITORS IN BELGIAN SHOW

BRUSSELS, Dec. 1[illegible]—(By Mail)—Increased in floor area to 382,000 square feet, having 780 exhibitors, representing nine nations and showing 700 cars, the Belgian show in the Conquentenaire Palace was the biggest ever held here. It covered the entire industry from bicycles to trucks. In the passenger car section France had the leading position with 40 exhibitors; there were 20 American makes, 10 Belgians, 5 Italians, 2 Germans and one Austrian. The American makes represented were: Auburn, Buick, Cadillac, Chevrolet, Chrysler, Essex, Ford, Hudson, Hupmobile, Lincoln, Moon, Nash, Oakland, Oldsmobile, Overland, Packard, Rickenbacker, Studebaker, Stutz and Willys-Knight.

Technically there was little in this show not having previously been exhibited at either Paris or London. For the first time since 1913 German firms were admitted to an allied show, but only Opel and Mercedes-Benz took stands. Mercedes-Benz, now united in one company, showed two entirely new six cylinder models, having piston displacements, respectively, of 122 and 183 cubic inches.



New Mercedes-Benz 122-in. six cylinder engine

Use American Appliances

In designing these cars all previous German practice appears to have been thrown overboard. The chassis have much which resembles the Italian type, with all modern American appliances added. The smaller six has a seven bearing crankshaft, detachable head, combined pump and fan, battery ignition, a thermostat on the water outlet, hot spot manifold, gas tank on the cowl, central chassis lubrication, using engine oil driven from the gearbox, unit transmission with central levers and left hand steering, an enclosed drive, four wheel brakes without equalizers. The bigger six has a four bearing shaft and differs from the smaller model in having magneto, generator and water pump in line driven from the rear.

Imperia, Metallurgique and Van den Plaz have been united in one concern. Imperia produces a light car with a 65 cubic inch sleeve valve engine. Metallurgique specializes on a 120 inch job with a four cylinder overhead valve engine which now has chain driven overhead camshaft, battery ignition, and Perrot-Bendix brakes in place of the former Metallurgique type. Van den Plas is one of the most important body builders in Belgium. Nagant is out with a light six of 109 inches piston displacement, having L-head and battery ignition and to which Perrot-Bendix brakes have been fitted, without equalizers, in place of the firm's own type of diagonally controlled four wheel brakes.

This year's show comes at the end of a period of depression and precedes what will doubtless be a period of retrenchment. Attention of the buying public has turned towards lower priced cars.

Minerva Has Heavy Demand

Present conditions, however, place Belgian manufacturers in a strong position. Minerva is unable to meet demand for the new 122 inch six cylinder sleeve valve model, which is sold in Belgium at 50,000 francs with either fabric leather sedan or metal phaeton body. This is the first time a European manufacturer has offered a closed job at the same price as an open one.

In the trunk section a great amount of attention was paid to engines running on charcoal gas. Minerva has brought out a 4-ton truck fitted with the Etia gas producer; Pipe is building practically nothing but gas producer vehicles; Dasse and Bovy are other firms paying attention to charcoal gas trucks. The market for these vehicles is in the Belgian Congo, where gasoline is both costly and difficult to obtain.

One Six Wheeler Shown

The only six wheeler in the show was one built by the Miesse Company; and equipped with a straight eight overhead valve engine of 89 by 130 mm. The chassis has open shaft drive to an underslung worm on the forward axle and from this to the rear axle by another open shaft. Equal sized springs are used front and rear, these latter being inverted semi-elliptics pivoted in pairs above and below the two axles.

Fabric leather bodies were a strong feature of the motor bus section. There were some interesting examples of saloon coaches having removable roofs. These were either of the detachable canvas type carried on longitudinal ribs, capable of being lifted out and brought to the permanent sides of the roof, or a sliding collapsible type with transverse ribs in grooves, held together by scissors. Externally they have all the appearance of a normal closed coach.

Good Business Outlook

DETROIT, Dec. 24.—The general outlook for industry appears very favorable, in the opinion of R. E. Chamberlain, sales manager of the Packard Motor Car Co., who recently completed a tour of the United States during which he discussed conditions with many Packard representatives. Mr. Chamberlain was accompanied on the trip by other factory representatives, meetings being held in each of the Packard sale zones. This series of meetings will be concluded with those to be held during the New York and Chicago shows.

Awarded Chrysler Trophy

FLINT, Dec. 24.—Matt Davison, Chrysler distributor for the northern half of the Lower Peninsula of Michigan, has been awarded the Chrysler Trophy because his organization led 17 distributors from Ohio, Michigan and parts of Indiana in overselling their quotas for September. The trophy is awarded each month.

Celebrate Record Sales

LOS ANGELES, Dec. 24.—As guests of the Los Angeles factory branch of the Chevrolet Motor Car Company, more than 400 members of the sales, service and office organizations of Chevrolet dealers in Los Angeles, Pasadena, Glendale, Long Beach and Huntington Park recently gathered at a dinner to celebrate the successful progress of the biggest sales month so far in 1926. November Chevrolet sales reached higher totals than any previous month this year.

N.A.D.A. Setting Stage For Annual Convention

Program Offers Stirring Bill of Addresses and Other Features

ST. LOUIS, Dec. 24.—An interesting and lively program has been prepared by the National Automobile Dealers Association for its annual convention to be held at the La Salle Hotel in Chicago, Feb. 1-3. The convention will be preceded Monday, Jan. 1, with the annual meeting of the board and the first regular convention session will begin at 1:30 P. M. on Tuesday.

Below is the complete program with the exception of that for Thursday, Feb. 3, to be announced later. This will be a session dealing with service and shop equipment, the National Automobile Chamber of Commerce and the Motor and Accessory Manufacturers Association cooperating in the program with the N. A. D. A. The program:

MONDAY, JANUARY 31

10:00 A. M. Board of Directors Annual Meeting
(No convention session)

TUESDAY, FEBRUARY 1

1:30 P. M.—Call to Order (Starts on time in Red Room, 19th Floor).

1:40 P. M.—President's Address—Charles B. Warren, Warren Nash Company, New York, N. Y.

2:15 P. M.—Appointment of Committees.

2:30 P. M.—General Manager's Report—C. A. Vane.

3:00 P. M.—Report of Nominating Committee.

3:10 P. M.—Election of Officers.

3:30 P. M.—"Pepping Up for 1927"—Stanley J. Krebs, New York, N. Y.

4:15 P. M.—Adjournment.

WEDNESDAY, FEBRUARY 2

10:00 A. M.—Call to Order (Starts on Time in Grand Ball Room, 19th Floor).

10:10 A. M.—"Plan Well for 1927 Profits"—James H. Collins, Research Director, Chilton Class Journal Company, Philadelphia, Pa.

10:45 A. M.—"Get Your Profit First"—Harry M. Fancher, Accounting Supervisor, National Automobile Dealers Ass'n, Denver, Colo.

11:30 A. M.—"Finding Profit Producing Salesmen"—Bevan Lawson, Promotion Sales Manager, Dictaphone Corp. of America, New York, N. Y.

12:15 P. M.—Adjournment.

2:00 P. M.—Call to Order (Starts on Time in Grand Ball Room, 19th Floor.)

2:10 P. M.—Report of Resolutions Committee.

2:30 P. M.—"Used Car Pollution Ruins Profits"—Edward Payton, Market Analyst, National Automobile Dealers Association, Cleveland, Ohio.

3:15 P. M.—Discussion (Open Forum).

3:30 P. M.—"The Sales Manager—Profit or Loss?"—Joseph N. Kellerman, Sales Development, National Automobile Dealers Ass'n, St. Louis, Mo.

4:15 P. M.—Adjournment.

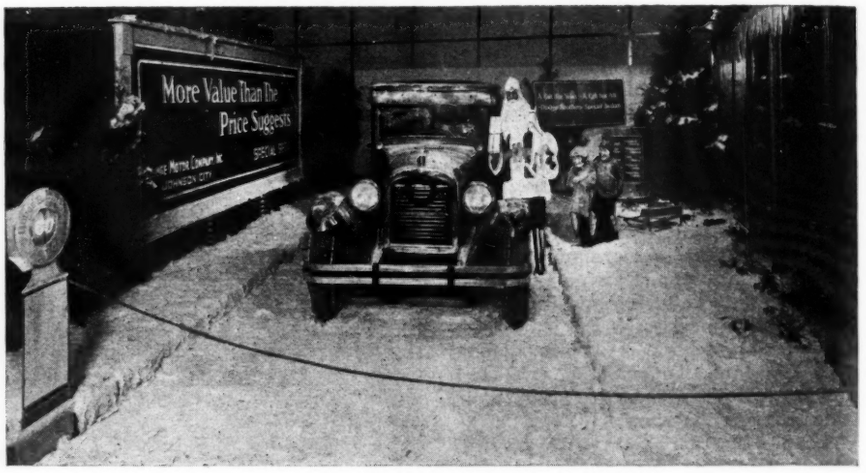
WEDNESDAY, FEBRUARY 2

6:30 P. M.—Annual Banquet and Trade Frolic (Grand Ball Room, 19th Floor, La Salle Hotel). Address—Alfred Reeves, General Manager, National Automobile Chamber of Commerce, New York, N. Y. Installation of Officers.
Ten men who sell $76,000,000 in automobiles annually, honored for service as presidents of the National Automobile Dealers Ass'n.
A. R. Glancy, President, Oakland Motor Car Co., Detroit, Mich.
Mystery Number—"Just for the Fun of It," by "the man who makes the whole industry laugh."

THURSDAY, FEBRUARY 3

10:00 A. M.—La Salle Hotel—Joint service and shop equipment program under auspices, National Automobile Dealers Ass'n, National Automobile Chamber of Commerce and Motor and Accessory Manufacturers Ass'n. Program to be announced.

More Proof That the Catchy Window Trim Does Not Necessarily Entail Big Cost



Considerably less than $20 was spent by the Range Motor Co., Dodge Brothers representatives at Johnson City, Tenn., in preparing this window display, and considering its effectiveness the sum was very small. The picture suggests what can be done with a relatively small expenditure when the window is well planned.

40,000 Have Used Plan

DETROIT, Dec. 24.—The Chevrolet Motor Co. reports that more than 40,000 motor car buyers have taken advantage of the six per cent Purchase Certificate plan since it was started in 1924.

According to a study conducted by the company it was found that the average motorist drives his car three years and pays for it the first year. It was also found that during the entire time the car is being operated the purchaser usually makes no provision for buying his next car, and, it was to overcome this condition that Chevrolet worked out its plan.

N. A. D. A. Program for N. Y. Meeting

ST. LOUIS, Dec. 24.—The National Automobile Dealers Association has completed is program for the meeting to be held during the New York Show. Sessions will be held in the East Ball Room of the Commodore Hotel Monday and Tuesday, Jan. 10 and 11. The full program follows:

MONDAY, JANUARY, 10

10:00 A. M.—Call to Order.

10:15 A. M.—"Economic Factors of 1926"—James Dalton, Research Editor, "Motor," New York, N. Y.

11:00 A. M.—"Get YOUR Profit First"—H. M. Fancher, C. P. A. Accounting Supervisor, National Automobile Dealers Association.

11:30 A. M.—"Profit Is Where You Find It"—Edward Payton, Market Analyst, Cleveland, Ohio.

2:00 P. M.—Call to Order.

2:15 P. M.—"A Day's Work for the Salesman"—C. B. Warren, President, National Automobile Dealers Association, Warren Nash Motors Corporation, New York, N. Y.

3:00 P. M.—"Pepping up for 1927"—Stanley J. Krebs, Sales Consultant, New York, N. Y.

3:45 P. M.—"The Sales Manager—Profit or Loss"—J. N. Kellerman, Sales Staff, National Automobile Dealers Association.

TUESDAY, JANUARY 11

10:00 A. M.—Joint service and shop equipment meeting under auspices Motor and Accessory Manufacturers Association, National Automobile Dealers Association and National Automobile Chamber of Commerce. Program to be announced.

November Retail Sales By G. M. Pass October

Seasonal Rule's Upset Credited to Campaign by One Division

DETROIT, Dec. 24.—General Motors sales of cars and trucks to users in November 1926 totaled 101,729 as against 60,257 for November 1925 and 99,073 for October 1926, according to the corporation's monthly compilation or sales figures. The fact that sales for November exceeded those of October contrary to the usual seasonal trend "should not be taken as an indication that the 'trend of sales' has increased to any material degree," says Alfred P. Sloan, Jr., president of the corporation. "As a matter of fact," he continues, "the circumstances are explained by an intensive retail drive inaugurated by one of the General Motors divisions.

Following are comparative tables on sales to users by dealers and sales by divisions to dealers:

Dealers Sales to Users

	1926	1925	1924
Aug.	122,305	78,638	54,842
Sept.	118,224	83,519	48,565
Oct.	99,073	86,281	46,003
Nov.	101,729	60,257	33,095

Divisions Sales to Dealers

	1926	1925	1924
Aug.	134,231	76,462	48,614
Sept.	138,360	89,018	51,955
Oct.	115,849	96,364	49,552
Nov.	78,550	73,374	23,631

These figures include passenger cars and trucks sold in the United States, Dominion of Canada and overseas by Chevrolet, Pontiac, Oldsmobile, Oakland, Buick and Cadillac manufacturing divisions of General Motors.

Manages Star Zone

ST. LOUIS, Mo., Dec. 24.—Roy Lively has been appointed sales manager of the St. Louis zone for Durant Motors, Inc., and is in charge of merchandising Star and Flint cars in this territory. He was formerly in the regional sales manager's department at Kansas City.

D. E. Anderson Makes Change

DETROIT, Dec. 24.—D. E. Anderson has been appointed sales engineer of the Bohn Aluminum & Brass Corp., Charles B. Bohn, president, announces. Mr. Anderson's association with the industry dates back 22 years, nine of which were with the Cadillac Motor Car Co., where he recently has been specializing on engine development, and at the same time handling all patent matters and serving on the new-devices committee of General Motors.

Chandler Orders Dividend

CLEVELAND, O., Dec. 24.—The annual dividend rate on Chandler-Cleveland Motors Corp. preferred stock was reduced from $4.00 to $2.50 when directors declared payment of 62½ cents a share, payable Jan. 2 to stockholders of record Dec. 20. The stock is entitled to $4.00 non-cumulative dividends annually ahead of the common.

Following the meeting, Fred C. Chandler, president, said the action was in line with the conservation policy pursued by the Chandler company since its inception 14 years ago. "At no time in our history has our position in the industry been stronger," he said.

India Tire Conference

SAN FRANCISCO, Dec. 24.—More than 100 dealers attended the second annual conference of Pacific Coast distributors and dealers of the India Tire & Rubber Company recently held at the Hotel Whitcomb in San Francisco.

Talks were made by J. M. Alderfer, president of the company; C. C. Prather, general sales manager; R. T. Hedlund, factory bus and truck tire expert; F. L. Ryan, Pacific Coast manager; and E. D. Eddy, of Eddy & Clar, Inc., Akron advertising agency.

New Member of Peerless Sales Organization

Frank Gross

Peerless Motor Car Corporation, Cleveland, has announced the addition to its sales organization of Frank Gross who has had prominent identifications in the trade. Mr. Gross has been branch manager of the Buffalo, Chicago and Boston branches of Olds Motor Works; president of the Saxon Motor Co., Saxon distributors in New York; president and general manager of the H. J. Lamar Co., Macon, Ga., Oldsmobile distributors, and from 1920 until early this year, special representative of Olds.

Proposes Coast-to-Coast 500-Ft. Super-Highway

Delaware Senator Presents Bill Providing for a Four Lane Drive

WASHINGTON, Dec. 24.—Construction of a super-highway extending from the Atlantic to the Pacific, to be 500 ft. wide, with a two-way fast traffic lane for tourist and non-truck traffic and a two-way traffic lane for trucks and heavy traffic, is provided for by a bill introduced in the senate by Senator du Pont of Delaware.

Financing the project would be made possible by the leasing of sites adjacent to the highway, and the whole project could be built without a dollar expended from the federal treasury, according to Senator du Pont. It is proposed to start the work by creation of a National Survey Commission, and for this purpose $5,000,000 is provided in the bill. After the commission completed the survey a corporation would be formed to float bonds, build, maintain and operate the highway. The commission is clothed with the right of condemnation, etc.

Senator du Pont estimates that rentals from the leases will pay upkeep and operating costs and eventually provide a balance to repay the cost of construction, and ultimately be a source of income to the United States and states. The measure was referred to the Committee on Post Office and Post Roads for hearings.

Encouraging Figures

MILWAUKEE, Dec. 24.—The Milwaukee and Wisconsin automotive trade feels much encouraged by the showing of dealers of the territory in November, as revealed by official figures of new car sales during the eleventh month. While the total sales were 84 less than a year ago, the decrease is due entirely to the falling off in Ford sales. This likewise accounted for a smaller total in October, as compared with a year ago.

New car sales for all of Wisconsin in November numbered 2,913, compared with 2,997 in November, 1925. Milwaukee county sales numbered 641, against 804 a year ago, the decrease being more than offset by the decline in Ford sales.

Sales of new motor trucks in November, for the state were 552. This is a substantial increase over a year ago, although in 1925 no official figures were issued concerning trucks.

Add Moon and Diana

ROCHESTER, N. Y., Dec. 24.—The Addison-Rickenbacker Company, 245 East avenue, has been appointed distributor of Moon and Diana in this territory. The company will continue to handle Rickenbacker.

At Least Twelve New Chassis for N. Y. Show

Mechanical Refinements to Be Stressed in 1927 Offerings

NEW YORK, Dec. 29.—Tentative production schedules laid out by the leading automobile factories for the early weeks of 1927 indicate no effort will be made to increase dealers' supplies which are generally considered ample for the season. The exceptions are several companies that are bringing out entirely new lines of cars and whose dealers have been cleaning out stocks of former models in the last two months.

Attention is focused on the National Automobile Show in New York which will have, aside from improved lines, at least 12 new chassis models, rather more than in any of the recent shows.

Although the trend toward colors will be accentuated next year by a larger number and variety of sport roadsters, chassis refinements will be stressed by the makers and there is observable a tendency to increase car speed, not because a higher range is particularly desired but because of smoother and quieter operation at comfortable touring speed.

A feature of the new displays will be a number of fine small cars, combining the appointments and high grade engineering of the more expensive models with ease of handling in crowded sections. Several new eight cylinder lines will be introduced at moderate prices.

Lawson Rubber Plant Burns

DALLAS, Tex., Dec. 24—The main plant of the Lawson Rubber and Manufacturing Company of Dallas, a concern manufacturing tire boots and other automobile rubber accessories, was de- at $125,000. The company operates another plant in Dallas but its output for the next few weeks will be curtailed considerably.

Back of New Ordinance

LOS ANGELES, Dec. 24.—As a result of the activities of the Better Business Bureau of the Los Angeles Advertising Club in handling complaints against certain individuals selling second-hand automobiles, a group of used car dealers has formed the "Bonded Automobile Dealers Association." The purpose of the association, according to Secretary L. W. Andrews, is to raise the used car business to a higher plane and cause all dealers in second-hand cars to be licensed and to advertise themselves as dealers, in accordance with the city ordinance.

The city ordinance requires that any firm, person or corporation engaged in the sale of merchandise must, in advertising, clearly and unequivocally state that such person, firm or corporation is a dealer. The Better Business Bureau has investigated a large number of automobile advertisements and has found that many persons advertising and selling cars from private addresses are in reality dealers and not private individuals.

Fix A. E. A. Meeting Place

CHICAGO, Dec. 23.—The Board of Directors of the Automotive Equipment Association has made arrangements to hold the 1928 Summer Convention of the association at the Grand Hotel at Mackinac Island. The convention will be held the week of June 10 to 16.

Ample Display Space

COLUMBUS, O., Dec. 24.—The twenty-third annual automobile show, under the auspices of the Columbus Automobile Dealers' Co., to be held at Motor Hall, on the grounds of the Ohio State Fair Association, Columbus, Jan. 17 to 22 inclusive, will afford space sufficient to display 228 cars and trucks and in addition 7500 square feet for accessories. Special features are being arranged for the event. The committee on arrangements consists of E. C. Brisley, A. T. Stanton, O. S. Zimmerman and Anson B. Coates. The last named will be manager of the show.

Prepare for S. A. E. Carnival

DETROIT, Dec. 24.—Unusual preparations are being made for the third annual carnival of the Society of Automotive Engineers, which will be held in Detroit, Jan. 28, during the S. A. E. convention.

The carnival will be held from 9:30 p. m. to 3 a. m. in the Oriole Terrace, which provides accommodations for 1,150. Dance music will be provided and there will be features by stage stars. Supper will be served at 10:30 and those desiring may have dinner served at their reserved tables between 6 and 8:30 p. m. Decorations of an elaborate nature, but in keeping with the carnival spirit, are being arranged.

Cornely Is President

SAN FRANCISCO, Cal., Dec. 24.—The Automotive Equipment Manufacturers' and Distributors' Association, at its annual meeting and banquet in the Clift Hotel here, named E. A. Cornely as president. Harry D. Schroder was chosen vice-president; L. B. Carpenter, treasurer; Elliott Epsteen, secretary; Samson J. Stern, ex-officio; and Walter R. Malm member of the board of directors. Robert W. Foyle was re-elected to the chairmanship of the board of directors. George Wahlgreen, manager of the annual San Francisco show, was the guest of honor and spoke on the benefits of automobile shows to the automotive trade in general.

If you want to know—

What new sixes there will be next year, you should watch for and read your copy of the NATIONAL SHOWS ISSUE of MOTOR AGE, Jan. 6, 1927.

1927 Show Buffalo's "Silver" Year Exhibit

January Event Will Mark City's 25th Display of Motor Vehicles

BUFFALO, Dec. 24.—Preparations are being whipped into shape for Buffalo's 25th annual automobile show, to be held at the 74th Regiment's armory, Jan. 15-22, by the Buffalo Automobile Dealers' Association.

This show will mark the silver anniversary of motor car exhibitions in Buffalo, a show having been held every year since the initial one in 1903. Each of these exhibitions, except two, has been held under the auspices of the Buffalo Automobile Dealers' Association, or its predecessor, the Buffalo Automobile Trade Association. One of the exceptions, the first show, was run by W. C. Jaynes, then a Buffalo dealer, assisted by Frederick J. Wagner. The other exception was conducted by the Automobile Club of Buffalo. The latter organization collaborated with the Buffalo Trade Association in the management of several of the earlier shows.

John J. Gibson, Buffalo Hupmobile dealer, who is to be one of the exhibitors at the 1927 show, enjoys the distinction of having displayed automobiles at every show here, including the first one. Mr. Gibson is secretary of the Buffalo Automobile Dealers' Association.

Organize Service Stations

COLUMBUS, O., Dec. 24.—The Columbus Automobile Service Association, composed of proprietors and managers of service stations which are not connected with sales agencies in Columbus, has been organized with an initial membership of 30. The object is to raise the standard of service stations in the city and instill more public confidence. Membership is limited to heads of concerns which do repair work, battery work, ignition work and washing of cars. Temporary officers are: President, H. L. Bogen; vice president, William F. O'Hara; secretary, H. A. Flynn; treasurer, Ivan Gillespie.

Makes Sales Suggestions

NEWARK, N. J., Dec. 24.—Some inside tips on how a salesman can get in to see a prospect so he can present his sales talk were given to members of the Newark Automobile Trade Association by H. D. Bullock of Los Angeles, who is associated with the Profit Institute of the National Automobile Dealers' Association. No salesman can be successful unless he develops a clientele, and he can make more money doing this than by hanging around the sales floor or depending upon tips supplied by his personal friends, Mr. Bullock declared.

Coming Motor Events

Automobile Shows

1927 NATIONAL SHOWS
*New York.....Jan. 8-15
*Chicago.....Jan. 29-Feb. 5

Akron, O.....Feb. 5-12
Goodrich Bldg.
Albany, N. Y.....Feb. 26-March 5
State Armory
Allentown, Pa.....Feb. 28-March 5
Manhattan Auditorium
*Baltimore, Md.....Jan. 22-29
5th Regiment Armory
*Boston, Mass.....March 5-12
Mechanics Bldg.
Brooklyn.....Jan. 22-29
Twenty-third Regiment Armory
Buffalo.....Jan. 15-22
174th Regiment Armory
Camden, N. J.....Feb. 7-12
Convention Hall
Chicago.....Jan. 10-15
American Road Builders' Association, Coliseum
Chicago.....Jan. 29-Feb. 5
Annual Salon, Hotel Drake.
*Cincinnati.....Jan. 15-22
Music Hall
*Cleveland.....Jan. 22-29
Public Auditorium
Columbus, O.....Jan. 17-22
Motor Hall, State Fair Grounds
Cumberland, Md.....Jan. 31-Feb. 5
Armory
Deadwood, S. D.....Feb. 21-26
Auditorium
Denver, Colo.....Feb. 14-19
Auditorium
*Detroit.....Jan. 22-29
Convention Hall
Des Moines.....Feb. 14-19
Coliseum
Elgin, Ill.....Jan. 5-8
Fort Wayne, Ind.....Feb. 14-19
Shrine Auditorium
Fort Worth, Texas.....March 5-12
Grand Rapids, Mich.....Jan. 17-22
Armory
Harrisburg Pa.....Jan. 29-Feb. 5
Emerson Brantingham Bldg.
Hartford, Conn.....Feb. 19-26
State Armory
Hudson, N. Y.....Jan. 25-29
State Armory
Huntington, W. Va.....Feb. 7-12
Vanity Fair Bldg.
Indianapolis.....Feb. 14-19
Auto Show Bldg.
*Kansas City, Mo.....Feb. 12-19
American Royal Building
Lancaster, Pa.....Feb. 1-5
Arcade Garage
Los Angeles.....Feb. 12-19
Annual Salon, Hotel Biltmore.
Los Angeles.....Feb. 26-March 8
Washington Park, in four tents
Louisville, Ky.....Feb. 14-19
Jefferson County Armory
*Milwaukee.....Jan. 15-22
Auditorium
Minneapolis.....Feb. 5-12
Overland Bldg.
*Montreal, Can.....Jan. 22-29
National Motor Show of Eastern Canada, Morgan Bldg.
*Muskegon, Mich.....Feb. 15-19
Armory
Newark, N. J.....Jan. 15-22
Twentieth Annual Newark Automobile Show.
Omaha, Neb.....Feb. 21-26
22nd Annual Automobile Show, City Auditorium.
Paterson, N. J.....Jan. 31-Feb. 5
Armory
Peoria, Ill.....Feb. 14-19
Armory
*Philadelphia.....Jan. 15-22
Commercial Museum
Pittsburgh.....Feb. 19-26
Motor Square Garden
Portland, Me.....Jan. 31-Feb. 5
Exposition Bldg.
Providence, R. I.....Feb. 5-12
Cranston Street Armory
Rocky Mount, N. C.....April 4-8
Tobacco Warehouse
Quebec, Can.....March 1-8
Drill Hall
Rochester.....Jan. 24-29
Edgerton Park
Saginaw, Mich.....March 9-12
San Bernardino, Cal.....Feb. 17-27
National Orange Show Bldg.
San Francisco.....Jan. 29-Feb. 5
Exposition Auditorium
Scranton, Pa.....Jan. 24-29
Armory
Sheboygan, Wis.....Feb. 14-20
New Eagles Auditorium
Sioux City, Iowa.....March 3-6
Auditorium
*Sioux Falls, S. D.....March 2-5
Springfield, Ill.....Feb. 9-12
State Arsenal
Springfield, Mass.....Feb. 28-March 5
Municipal Auditorium
Springfield, O.....Jan. 17-22
Memorial Hall
*St. Louis, Mo.....Feb. 21-26
Union Market Bldg.
Syracuse.....Feb. 7-12
State Armory
Troy, N. Y.....Jan. 22-29
State Armory
Toledo.....Feb. 7-12
Civic Center Garage
Washington, D. C.....Jan. 29-Feb. 5
Worcester, Mass.....Feb. 10-12
Waterbury, Conn.....Jan. 24-29
State Armory
Wichita, Kans.....Feb. 22-25
Exposition Bldg.
Wilkes-Barre, Pa.....Jan. 31-Feb. 5
Matheson Exposition Bldg.
*Williamsport, Pa.....Jan. 24-29
Susquehanna Trail Garage

Races

A. A. A.

Altoona, Pa.....June 11
Altoona, Pa.....Sept. 5
Atlantic City.....April 30
Atlantic City.....Sept. 24
Charlotte, N. C.....May 9
Charlotte, N. C.....Nov. 11
Detroit.....Sept. 10
Fresno, Cal.....April 21
Indianapolis.....May 30
Los Angeles.....Feb. 22
Los Angeles.....April 10
Los Angeles.....Nov. 27
Salem, N. H.....June 25
Salem, N. H.....Oct. 12
Syracuse, N. Y.....Aug. 27 or Sept. 3

Conventions

Automotive Service Association of New York, banquet, Hotel Astor.....Feb. 17

Michigan Automotive Trade Association, Book-Cadillac, Detroit.....Jan. 26

National Association of Automobile Show and Association Managers, Drake Hotel, Chicago.....Feb. 3

N. A. C. C.

Chicago, Feb. 1—Service Meeting.

National Automotive Parts Association, Book-Cadillac, Detroit.....Jan. 27-28

National Automobile Dealers' Association, Hotel La Salle, Chicago.....Feb. 1-3

S. A. E.

Detroit, Jan. 25-28—Annual Meeting.
Detroit, Jan. 28—Carnival.

*Will have special shop equipment exhibit.

COMING FEATURE ISSUES OF CHILTON CLASS JOURNAL PUBLICATIONS

January 1—Automobile Trade Journal—Annual Show Issue
January 6—Motor Age—Annual Show Issue
Jan. 20—Commercial Car Journal—New York Show Issue
January 27—Motor Age—Chicago Show Issue

Hold Open House

RUSHVILLE, Ill., Dec. 24.—The Rushville Motor company, local Ford dealers, held open house recently to celebrate completion of its new $30,000 building.

If you want to know—

What new features will be incorporated in chassis and body design in 1927, you should watch for and read your copy of the NATIONAL SHOWS ISSUE of MOTOR AGE, Jan 6, 1927.

Name Export Managers

CLEVELAND, O., Dec. 24.—The Vlchek Tool Company of Cleveland announces appointment of the Kane Bros. Company, Inc., 53 Park Place, New York, as export managers.

Prices and Weights of Current Passenger Car Models

SHIP WT.	PASS.	BODY STYLE.	PRICE
AUBURN			
		"6-66"	
.....	2-p	Roadster	$1,095
.....	5-p	Touring	.....
.....	5-p	Brougham	1,195
.....	5-p	Sedan	1,295
.....	5-p	Wanderer Se'n	1,345
		"8-77"	
.....	2-p	Roadster	$1,395
.....	5-p	Touring	.....
.....	5-p	Brougham	1,495
.....	5-p	Sedan	1,695
.....	5-p	Wanderer Se'n	1,745
		"8-88"	
		(129 in. W. B.)	
3180	4-p	Sp. Roadster	$1,695
3200	6-p	Touring	1,695
.....	3-p	Coupe	1,745
3380	5-p	Brougham	1,795
3450	5-p	Sedan	1,995
3450	5-p	Wanderer	2,045
		(146 in. W. B.)	
.....	7-p	Sedan	$2,495
BUICK			
		"115"	
2845	2-4-p	Roadster	$1,195
2955	5-p	Tourng	1,225
3020	2-4-p	Coupe	1,195
3150	5-p	2d. Sedan	1,195
3110	4-p	Coupe	1,275
3230	5-p	4d. Sedan	1,295
.....	5-p	Town Bro'm	.....
		"120"	
		(120 in. W. B.)	
3800	4-p	Coupe	$1,465
3670	5-p	2d. Sedan	1,395
3765	5-p	4d. Sedan	1,495
		"128"	
		(128 in. W. B.)	
3570	4-p	Sp. Roadster	$1,495
3635	5-p	Sp. Touring	1,525
3805	4-p	Country Club	1,765
.....	5-p	Coupe	1,850
.....	3-5-p	Coupe	1,925
3940	5-p	Brough. Sedan	1,925
4025	7-p	Sedan	1,995
CADILLAC			
		"314" Standard Line	
		(132 in. W. B.)	
4170	5-p	Brougham	$2,995
4105	2-p	Coupe	3,100
4190	5-p	Victoria	3,195
4270	5-p	Sedan	3,250
4460	2-p	Sport Coupe	3,500
4590	5-p	Sport Sedan	3,650
		(138 in. W. B.)	
4420	7-p	Sedan	$3,400
4480	7-p	Imperial	3,535
		Custom Built (132 in.)	
4220	2-p	Roadster	$3,350
4300	2-p	Conv't Coupe	3,450
		(138 in. W. B.)	
4285	7-p	Touring	$3,450
4275	5-p	Phaeton	3,450
4705	5-p	Sp. Phaeton	3,975
4465	5-p	Coupe	3,865
4465	5-p	Sedan	3,995
4580	7-p	Suburban	4,125
4615	7-p	Imperial	4,350
CASE		**J. I. C.**	
3290	5-p	Touring	1,885
3640	5-p	Sedan	2,590
		"Y"	
3950	7-p	Touring	$2,225
4320	7-p	Sedan	2,975
CHANDLER BIG SIX			
3200	2-4-p	Roadster	$1,695
3330	5-p	Touring	1,545
3345	7-p	Touring	1,645
3570	5-p	20th C'y Sedan	1,495
3570	5-p	Met. Sedan	1,595
3485	4-p	Coupe	1,675
3570	5-p	De Luxe Sedan	1,695
3725	7-p	Sedan	1,795
		Standard Six	
		(108½ in. W. B.)	
2475	5-p	Touring	$ 945
2565	5-p	De Luxe Tour.	1,005
2470	2-4-p	Sport R'dster	1,135
2685	5-p	Sedan	995
2620	2-p	Coupe	1,035
2685	5-p	De Luxe Sedan	1,095
2620	2-p	De Luxe Coupe	1,125
WT.	PASS.	BODY STYLE.	PRICE
		Special Six	
		(115 in. W. B.)	
2890	5-p	Touring	$1,145
2940	5-p	Sport Touring	1,295
2995	2-p	Coupe	1,195
2995	2-p	De Luxe Coupe	1,285
3200	5-p	Sedan	1,295

SHIP WT.	PASS.	BODY STYLE.	PRICE
CHEVROLET "V"			
1785	2-p	Roadster	$510
1865	5-p	Touring	510
2005	2-p	Utility Coupe	645
2110	5-p	Coach	645
2185	5-p	Sedan	735
2185	5-p	Landau Sedan	765
CHRYSLER			
		"50"	
2145	5-p	Touring	$750
2025	2-p	Roadster	750
2130	2-4-p	Roadster	795
2230	2-p	Coupe	750
2335	5-p	Coach	780
2410	5-p	Sedan	830
		"60"	
2575	5-p	Touring	$1,075
2545	2-p	Roadster	1,145
2605	2-4-p	Roadster	1,175
2690	2-p	Coupe	1,125
.....	3-5-p	Coupe	.....
2780	5-p	Coach‡	1,145
2840	5-p	Sedan	1,245
		"70"	
2845	2-4-p	Roadster	$1,495
2930	7-p	Phaeton	1,395
.....	5-p	Sp. Phaeton	1,495
.....	.....	Cabriolet	.....
.....	4-p	Coupe	.....
.....	5-p	Coach	1,395
3000	2-4-p	Royal Coupe	1,545
3090	5-p	Brougham	1,525
3150	5-p	Royal Sedan	1,595
3160	5-p	Crown Sedan	1,795
		"80"	
		(185½ in.•)	
3765	5-p	Phaeton	$2,495
3805	2-4-p	Roadster	2,595
.....	5-p	Sedan	2,675
4235	5-p	Sedan	3,095
		(192½ in.•)	
4090	4-p	Coupe	$2,895
4065	2-p	Cabriolet	3,495
		(198½ in.•)	
4450	7-p	Sedan	$3,295
4260	7-p	Sedan Lim.	3,595
4265	5-p	Town Car	5,495

‡Cloth Upholstery. Leather at extra cost.
•Overall length.

SHIP WT.	PASS.	BODY STYLE.	PRICE
CUNNINGHAM		**"V-6"**	
4500	4-p	Sp. Touring	$6,150
4600	7-p	Touring	6,650
4700	4-p	Coupe	7,600
5000	6-p	Limousine	8,100
DAGMAR		**"6-70"**	
3750	4-p	Roadster	$3,500
3800	4-p	Sp. Tourer	3,500
3700	4-p	Phaeton	3,500
4200	4-p	Petite Coupe	4,500
4200	4-p	Petite Sedan	4,500
4500	4-p	De Luxe Coupe	4,750
4700	5-p	Sedan	4,700
4800	7-p	Sedan	4,750
		"6-60"	
3150	5-p	Touring	$1,785
3100	2-p	Roadster	1,985
3200	4-p	Sp. Touring	1,985
3500	5-p	Sedan	2,445
DAVIS			
		"92-27"	
2915	5-p	Legion. Tour.	$1,495
3000	5-p	Sedan	1,595
3055	5-p	Imperial Sedan	1,795
		"94-27"	
2350	5-p	Roadster	$1,245
2500	5-p	Touring	1,285
2570	5-p	Sedan	1,285
2375	3-p	Coupe	1,285
.....	5-p	Imp. Sedan	1,385
DIANA "St. 8"			
2995	5-p	Roadster	$1,795
2995	5-p	Palm Bch. Rds.	1,995
.....	7-p	Touring	1,995
3170	5-p	DeL. Bro'm	1,995
3275	5-p	De Luxe Sedan	2,195
3160	5-p	Cabriolet	2,095
3640	7-p	Sedan (135 in. W. B.)	2,695
3640	7-p	Berline Sedan	2,895
3640	5-p	Town Car	5,000
DODGE BROTHERS			
2448	2-p	Roadster	$ 795
2541	2-p	Special Roadster	845
2584	5-p	Touring	795
2669	5-p	Spec. Touring	845
2604	2-4-p	Sport Roadster	945
2653	4-p	Sport Touring	880
2658	2-p	Coupe	845
2672	2-p	Spec. Coupe	895
2816	5-p	Sedan	895
2893	5-p	Spec. Sedan	945
2912	5-p	DeL. Sedan	1,075

SHIP WT.	PASS.	BODY STYLE.	PRICE
DUESENBERG			
		Straight "8"	
3920	2-p	Roadster	†
3970	4-p	Roadster	†
3700	5-p	Phaeton	†
3980	4-p	Sp. Phaeton	†
4115	5-p	Sedan	†
4500	7-p	Sedan	†

†Manufacturers do not quote list prices.

DU PONT			
		"E"	
3700	4-p	Roadster	$2,800
3850	5-p	Touring	2,800
3850	4-p	Coupe	3,200
4100	5-p	Sedan	3,400
.....	5-p	Conv't. Sedan	3,750
ELCAR			
		"6-70"	
2580	4-p	Lan. Rdster	$1,475
2670	5-p	Brougham	1,295
2750	5-p	Sedan	1,395
		"6-65"	
2780	5-p	Touring	$1,295
2840	4-p	Roadster	1,495
2980	2-4-p	Land. R'dster	1,695
2779	5-p	Coach	1,395
2980	3-p	Coupe	1,495
2900	5-p	Sedan	1,595
		"8-82"	
3320	2-4-p	Land. R'dster	$1,870
3410	5-p	Brougham	1,595
3490	5-p	Sedan	1790
		"8-90"	
3675	7-p	Touring	$2,265
3620	2-4-p	Land. R'dster	2295
.....	2-4-p	Roadster	2,315
3710	5-p	Brougham	2,195
3795	5-p	Sedan	2,265
3895	5-p	Sedan	2,465
4245	7-p	Sedan	2,765
ESSEX			
		"Six"	
2260	5-p	Touring	$765
2500	5-p	Coach	695
2540	5-p	Sedan 4d.	795
FLINT			
		"Z-18"	
2525	5-p	Coach	$ 960
2580	5-p	DeL. Coach	1,075
		"60"	
2745	4-p	Roadster	$1,360
2750	5-p	Touring	1,260
2885	4-p	Sp. Roadster	1,495
2890	4-p	Coupe Roadster	1,495
3030	5-p	Sedan 4d.	1,495
3010	5-p	Brougham	1,450
		"80"	
		(120 in. W. B.)	
3335	4-p	Roadster	$1,645
3245	5-p	Touring	1,450
3395	4-p	Sp. Touring	1,645
3500	4-p	Coupe	1,850
3625	5-p	Sedan	1,925
		(130 in. W. B.)	
3780	7-p	Sedan	$2,125
FORD			
		With Starter, Dem. Rims and Balloon Tires	
1655	2-p	Runabout	$360
1728	5-p	Touring	380
1860	2-p	Coupe	485
1972	5-p	Tudor Sedan	495
2004	5-p	Fordor Sedan	545
FRANKLIN			
		"11"	
2800	3-p	Sport Road.	$2,690
2845	5-p	Touring	2,635
2965	3-p	Coupe	2,645
.....	3-5-p	Coupe	2,760
3175	5-p	Sedan	2,790
.....	4-p	Victoria	2,790
.....	5-7-p	Sedan	2,840
.....	5-p	Oxford Sedan	2,865
3080	5-p	Sport Sedan	2,910
3275	7-p	Limousine	2,990
3135	7-p	Cabriolet	4,400
GARDNER			
		6B	
.....	5-p	Sedan	$1,695
		"80"	
.....	2-4-p	Roadster	$1,395
3350	5-p	Sedan	1,695
		"90"	
3450	2-4-p	Roadster	$1,995
3690	5-p	Brougham	2,295
3720	5-p	Sedan	2,295
3690	5-p	Victoria	2,295
HERTZ			
		"D-1"	
3587	5-p	Touring	$1,495
3720	5-p	Sedan	1,795

SHIP WT.	PASS.	BODY STYLE.	PRICE
HUDSON			
		"Super Six"	
3395	7-p	Phaeton	$1,300
3440	5-p	Coach	1,095
3470	5-p	Spec. Coach	1,150
3560	4-p	Brougham 4d.	1,395
3685	7-p	Sedan	1,495
HUPMOBILE			
		"A-1"	
2620	5-p	Touring	$1,325
.....	2-4-p	Roadster	1,385
2800	5-p	Sedan	1,385
2800	2-4-p	Coupe	1,385
.....	5-p	Brougham	.....
		"E-3"	
3300	5-p	Touring	$1,945
3360	7-p	Touring	2,045
3355	2-4-p	Roadster	2,045
3465	2-4-p	Coupe	2,345
.....	5-p	Brougham	2,245
3545	5-p	Sedan	2,345
.....	5-p	Victoria	2,345
.....	7-p	Sedan	2,495
.....	7-p	Sedan Lim.	2,595
JEWETT			
		"6-45"	
.....	5-p	Touring	$1,150
2660	5-p	Brougham	1,195
2760	5-p	4d. Sedan	1,295
JORDAN			
		"J-1"	
2915	4-p	Playboy Road.	$1,845
3200	5-p	Sedan	1,945
3200	4-p	Victoria	1,945
3200	2-4-p	Sport. Coupe	2,195
3200	4-p	Cus. Victoria	2,195
3200	5-p	Cus. Sedan	2,195
		Series "AA"	
3470	5-p	Cus. Sedan	$2,495
3470	4-p	Cus. Victoria	2,495
KISSEL			
		"55"	
		(124 in. W. B.)	
3020	5-p	Phaeton	$1,585
3660	7-p	Touring	1,685
3065	2-p	Speedster	1,795
3225	4-p	Tourster	1,795
3160	4-p	Speedster	1,895
3190	2-p	Speedster (Enc.)	2,085
3275	4-p	Speedster (Enc.)	2,185
.....	2-p	Coupe R'dster	1,795
.....	4-p	Coupe R'dster	1,895
3300	5-p	Brougham	1,695
.....	5-p	Spec. Bro'm	1,795
3440	5-p	Bro'm Sedan	1,895
.....	5-p	Spec. Bro'm Sed.	2,095
		(132 in. W. B.)	
3590	5-p	Bro'm Sed. DeLuxe	$2,585
4010	7-p	Sedan DeLuxe	3,085
3640	7-p	Berline Sed. DeLuxe	3,185
		"75"	
		(131) in. W. B.)	
3220	5-p	Phaeton	$1,985
3630	7-p	Touring	2,085
3275	2-p	Speedster	2,195
3335	4-p	Tourster	2,195
3360	4-p	Speedster	2,295
3425	2-p	Speedster (Enc.)	2,485
3500	4-p	Speedster (Enc.)	2,585
.....	2-p	Coupe R'dster	2,195
.....	4-p	Coupe R'dster	2,295
3565	5-p	Brougham	2,095
.....	5-p	Spec. Bro'm	2,195
3760	5-p	Bro'm Sedan	2,295
.....	5-p	Spec. Bro'm Sedan	2,495
		(139 in. W. B.)	
3910	5-p	Bro'm Sedan DeLuxe	$2,985
4080	7-p	Sedan DeLuxe	3,485
4125	7-p	Berline Sed. DeLuxe	3,585
LINCOLN "8"			
4760	2-p	Sport R'dster	$4,700
4810	7-p	Sport Touring	4,700
4880	4-p	Sport Phaeton	4,700
4610	4-p	Coupe	4,800
4885	4-p	Sedan	5,000
4760	5-p	Sedan	5,100
4890	7-p	Sedan	5,300
4945	7-p	Limousine	5,500
LOCOMOBILE			
		"Jr. 8"	
3035	4-p	Roadster	$2,150
3055	5-p	Touring	1,785
3335	5-p	Sedan	2,285
3330	5-p	Brougham	2,285
		"90"	
4475	4-p	Sportif	$5,500
4370	4-p	Roadster	5,900
4680	4-p	Victoria Coupe	6,950
4842	5-p	Victoria Sedan	7,300
4615	7-p	Cabriolet	7,500
4930	7-p	Suburban	7,500
4615	7-p	Brougham	7,500

Prices and Weights of Current Passenger Car Models

SHIP WT.	PASS.	BODY STYLE.	PRICE
LOCOMOBILE—Continued			
		"48"	
5030	4-p	Sportif	$7,460
5330	7-p	Touring	7,460
5640	7-p	Touring Lim.	9,500
5600	5-p	Victoria Sedan	10,050
5464	6-p	Brougham	10,040
5868	7-p	Enc. Dr. Lim.	10,050
5624	7-p	Cabriolet	10,300
McFARLAN		**"6"**	
		"SV"	
3700	2-p	Roadster	$2,650
.....	2-p	Spec. Roadster	2,900
3600	5-p	Touring	2,650
.....	7-p	Touring	2,750
.....	5-p	Brougham 4d.	3,180
3850	4-p	Coupe	3,180
3850	5-p	Sedan	3,180
.....	5-p	Spec. Sedan	3,180
3850	7-p	Sedan	3,280
.....	5-p	Sub. Sedan	3,380
.....	7-p	Sub. Sedan	3,480
		"TV"	
4000	2-p	Roadster	$5,400
4600	4-p	Sp. Touring	5,600
4900	4-p	Coupe	6,720
5200	4-p	Tour. Sedan	6,720
5200	7-p	Tour. Sedan	6,810
.....	6-p	Sedan	6,720
.....	7-p	Sedan	6,810
.....	7-p	Spec. Sedan	6,810
.....	7-p	Enc. Sedan	7,110
.....	7-p	Sub. Sedan	7,110
5200	7-p	Town Car	9,000
		"Straight 8"	
3400	2-p	Roadster	$2,650
3400	4-p	Roadster	2,900
3400	5-p	Touring	2,650
3450	7-p	Touring	2,750
3650	5-p	Sedan	3,180
3650	5-p	Sub. Sedan	3,380
3700	7-p	Sedan	3,280
3700	7-p	Sub. Sedan	3,480
3650	4-p	Coupe	3,180
3650	5-p	Coach Brough.	3,180
3750	5-p	Town Car	4,600
MARMON			
		"Little Marmon"	
.....	2-p	Speedster	$1,895
.....	2-p	Conv't Coupe	1,995
.....	2-p	Coupe	1,895
.....	5-p	Sedan 2d.	1,795
.....	5-p	Sedan 4d.	1,895
		"E-75"	
4251	2-p	Speedster	$3,485
4256	4-p	Speedster	3,485
4017	5-p	Phaeton	3,485
.....	7-p	Tour. Speedster	3,565
.....	2-p	Coupe R'dster	3,565
4452	5-p	Town Coupe	3,195
4373	2-p	Coupe	3,485
4346	4-p	Victoria	3,485
4525	5-p	Brougham	3,565
4498	5-p	Sedan	3,565
4620	7-p	Sedan	3,640
.....	5-p	Custom Sedan	3,960
4678	7-p	Custom Sedan	4,075
.....	7-p	Custom Lim.	4,175
MOON			
		"6-60"	
2295	3-5-p	Roadster	$ 995
2330	3-5-p	DeL. Roadster	1,095
2330	.....	DeL. Roadster	1,095
2340	5-p	Phaeton	995
2420	5-p	Coach	1,045
2520	.....	Std. Broug.	1,145
2575	.....	Cab. Roadster	1,195
2520	.....	Royal Bro'm	1,195
2605	.....	4d. Sedan	1,245
2605	5-p	Royal Sedan	1,295
		Series "A"	
2600	5-p	Roadster	$1,395
2560	5-p	Touring	1,195
2720	5-p	Cab. Roadster	1,595
2710	5-p	DeL. Bro'm.	1,395
2860	5-p	DeL. Sedan 4d.	1,545
NASH			
		"Light Six"	
2275	5-p	Touring	$865
2310	2-p	Coupe	925
2440	5-p	Sedan	925
2475	5-p	Sedan	995
		"Special"	
2900	2-p	Roadster	$1,115
2980	5-p	Touring	1,135
2980	4-p	Roadster	1,225
3030	2-p	Business Coupe	1,165
3150	5-p	Sedan 2d.	1,215
3170	5-p	Sedan	1,315
		"Advanced"	
		(121 in. W. B.)	
3390	4-p	Roadster	$1,475
3400	5-p	Touring	1,340
3550	5-p	Sedan 2d.	1,425
3650	5-p	Sedan	1,525

SHIP WT.	PASS.	BODY STYLE.	PRICE
		"Advanced"	
		(127 in. W. B.)	
3480	7-p	Touring	$1,490
3640	4-p	Victoria	1,790
3750	5-p	Coupe	1,990
3830	7-p	Sedan	2,090
OAKLAND			
		"6"	
2500	5-p	Touring	$1,025
2590	4-p	Sp. Roadster	1,175
2620	5-p	Phaeton	1,095
2745	5-p	2d. Sedan	1,095
2705	3-p	Landau Coupe	1,125
2855	5-p	4d. Sedan	1,195
2885	5-p	Landau Sedan	1,295
OLDSMOBILE			
		"30E"	
2200	5-p	Touring	$875
.....	5-p	DeL. Touring	.....
2317	4-p	DeL. Roadster	975
2400	5-p	DeL. Touring	980
2347	2-p	Coupe	925
2450	5-p	Coach	950
2470	2-p	DeLuxe Coupe	990
2620	5-p	DeLuxe Coach	1,050
2510	5-p	Sedan	1,025
2690	5-p	DeLuxe Sedan	1,125
2705	5-p	Landau	1,190
OVERLAND			
		"(4) Whippet"	
1985	.....	Touring	$645
2130	2-p	Coupe	675
2075	5-p	Sedan	675
		"93"	
2395	5-p	Touring	$825
2397	2-p	Coupe	825
2443	5-p	Std. Sedan	835
2583	5-p	DeLuxe Sedan	975
PACKARD			
		"6"	
3545	4-p	Roadster	$2,685
3590	5-p	Phaeton	2,585
3925	4-p	Coupe	2,685
3925	5-p	Sedan	2,585
		(133 in. W. B.)	
3790	7-p	Touring	$2,785
4070	7-p	Sedan	2,785
4015	5-p	Club Sedan	2,725
4130	7-p	Sedan Lim.	2,885
		"8"	
		(136 in. W. B.)	
4110	4-p	Runabout	$3,850
4130	5-p	Phaeton	3,750
4475	4-p	Coupe	4,750
4430	5-p	Sedan	4,750
		(143 in. W. B.)	
4250	7-p	Touring	$3,950
4550	5-p	Club Sedan	4,890
4660	7-p	Sedan	5,000
4700	7-p	Sedan Lim.	5,100
PAIGE			
		"6-75"	
		(125 in. W. B.)	
3420	7-p	Touring	$1,655
3540	4-p	Cab Roadster	1,995
3550	5-p	Sedan	1,695
3550	4-p	Coupe	1,995
3765	7-p	Sedan	1,995
3805	7-p	Limousine	2,245
		"6-65"	
		(115 in. W. B.)	
.....	4-p	Roadster	$1,540
3215	5-p	Brougham	1,395
3115	5-p	Landau Bro'm	1,395
3280	5-p	Sedan	1,540
PEERLESS			
		"6-72"	
		(126½ in. W. B.)	
3625	5-p	Coupe	$2,295
3680	5-p	Sedan	2,395
		(133½ in. W. B.)	
3475	2-4-p	Sp. Roadster	$2,195
3400	.....	Phaeton	1,995
3800	7-p	Sedan	2,595
3825	7-p	Limousine	2,695
3575	5-p	DeLuxe Sedan	2,795
3650	7-p	DeLuxe Sedan	2,995
		"6-80"	
2950	5-p	Phaeton	$1,395
3025	2-4-p	Roadster	1,495
.....	2-4-p	Coupe Roadster	1,565
3120	2-4-p	Coupe	1,565
3100	5-p	Sedan 2d.	1,395
3290	5-p	Std. Sedan	1,595
.....	.....	Sport Sedan	1,795
3140	5-p	DeLuxe Sedan	1,795
		"6-90"	
.....	2-4-p	Sport Roadster	$1695
3260	4-p	Coupe	1,725
.....	4-p	Sedan	1,895
3410	5-p	Sedan	1,895
3460	5-p	Landaulet	1,995

SHIP WT.	PASS.	BODY STYLE.	PRICE
		"8-69"	
		(133½ in. W. B.)	
3850	2-4-p	Roadster	$2,995
.....	7-p	Sedan	3,095
4125	5-p	Sedan	3,495
4200	7-p	Sedan	3,595
4275	5-p	Ber. Limousine	3,795
		(126 in. W. B.)	
.....	5-p	Coupe	$2,795
4050	5-p	Sedan	2,995
PIERCE-ARROW			
		"80"	
3285	2-p	Runabout	$2,895
3300	4-p	Phaeton	3,095
3440	7-p	Phaeton	2,895
3470	5-p	Coach 2d.	2,995
3405	2-p	Coupe	3,100
3525	5-p	Coach 4d.	3,250
3620	7-p	Coach	3,350
3420	4-p	Coupe	3,695
3500	5-p	Sedan	3,895
3600	7-p	Sedan	3,995
3655	7-p	Enc. Dr. Lim.	4,045
3675	7-p	Lim. Coach	3,450
		"36"	
4445	2-p	Runabout	$5,875
4480	4-p	Touring	5,875
4585	7-p	Touring	5,875
4760	3-p	Coupe	6,375
4800	4-p	Sedan	6,375
4760	7-p	Sedan	5,875
4770	4-p	Coupe Sedan	6,375
4840	7-p	Enclosed Lim.	5,875
4840	7-p	French Lim.	7,500
4840	7-p	Enc. Dr. Land.	6,000
4760	7-p	Sedan Landau	6,000
4880	4-p	Lim. Encl.	6,375
4800	4-p	Sedan Landau	6,600
4880	4-p	Encl. Landau	6,600
4740	7-p	French Landau	8,000
PONTIAC			
		"Six"	
2270	2-p	Coupe	$825
2335	5-p	2d. Sedan	825
2455	5-p	Landau Sedan	895
2420	2-p	DeLuxe Coupe	895
2565	5-p	DeL. Lan. Sed.	975
REO			
		"A"	
.....	2-p	Roadster	.....
.....	2-p	Coupe	.....
.....	4-p	Coupe	.....
.....	.....	Sedan	3,700
.....	.....	Brougham	.....
RICKENBACKER			
		"E"	
3038	5-p	Touring	$1,750
3068	7-p	Touring	1,795
2953	4-p	Roadster	1,795
3116	5-p	Coupe-Sedan	1,495
3202	5-p	Brougham	1,695
3092	4-p	Coupe Roadster	1,920
3317	5-p	Sedan	1,995
3353	7-p	Sedan	2,195
		"B-8"	
3227	4-p	Roadster	$2,195
3315	5-p	Touring	2,150
3355	7-p	Touring	2,195
.....	4-p	Sup. Sp. Roadster	3,250
3445	5-p	Coupe Sedan	2,095
3486	5-p	Brougham	2,195
3345	4-p	Coupe Roadster	2,320
3603	5-p	Sedan	2,495
3640	7-p	Sedan	2,595
.....	4-p	Sup. Sp. Sedan	5,000
ROAMER			
		"6-50-55"	
.....	5-p	Spec. Tourer	$1,295
.....	5-p	Spec. Sp.Tourer	1,395
.....	2-p	Bus. Coupe	1,395
.....	5-p	Coupe	1,395
.....	5-p	Sedan DeLuxe	1,695
		"6-54-E"	
.....	4-p	Roadster	$2,385
.....	4-p	Tourer	1,985
.....	4-p	Sport	2,285
.....	7-p	Tourer	2,285
.....	3-p	Cabriolet	2,750
.....	5-p	Sedan	2,950
		"4-75-E"	
		"Custom Built"	
.....	2-p	Speedster	$3,485
.....	3-p	Sport	3,285
.....	4-p	Tourer	2,985
		"8-80" (126 in. W. B.)	
3310	2-p	Roadster	$1,895
3410	2-p	Coupe	1,985
3530	5-p	Sedan	1,935

SHIP WT.	PASS.	BODY STYLE.	PRICE
ROLLS-ROYCE			
Manufacturers do not quote list prices.			
STAR			
		"4"	
1850	2-p	Conv't R'dster	$550
1905	5-p	Touring	550
1965	2-p	Coupe	675
2120	5-p	Coach	695
2190	5-p	Sedan 4d.	795
		Standard "6"	
2075	5-p	Touring	$725
2160	2-4-p	Sp. Roadster	910
2100	2-p	Coupe	820
2245	5-p	Coach	880
2355	5-p	Sedan	975
2365	5-p	Landau Sedan	995
2150	2-4-p	Sp. Coupe	995
STEARNS-KNIGHT			
		"F 6-85"	
4135	2-p	Roadster	$3,250
4235	4-p	Touring	3,250
4640	2-p	Cab-Roadster	3,550
4290	4-p	Coupe	3,350
4407	5-p	Std. Sedan	3,350
4505	7-p	Sedan	3,550
4650	5-p	Std.Sedan Lim.	3,550
4800	7-p	Sedan Lim.	3,750
STUDEBAKER			
		Standard Six	
2965	3-p	Du. Roadster	$1,160
3030	3-p	Sport Roadster	1,250
3095	5-p	Du. Phaeton	1,180
3140	3-p	Country Club	1,295
3210	5-p	Coach	1,230
3115	5-p	Sedan	1,330
3235	5-p	Custom Sedan	1,385
3180	4-p	Cus. Victoria	1,335
		Special Six	
3480	2-4-p	Sp. Roadster	$1,630
3495	5-p	Du. Phaeton	1,480
3470	5-p	Coach	1,480
3620	5-p	Brougham	1,830
		Big Six	
		(120 in. W. B.)	
3445	3-p	Du. Roadster	$1,530
3485	2-4-p	Sport Roadster	1,680
3580	5-p	Sport Phaeton	1,610
3510	5-p	Club Coupe	1,480
3705	4-p	Cus. Victoria	1,735
3835	5-p	Custom-Bro'm	1,785
		(127 in. W. B.)	
3720	7-p	Du. Phaeton	$1,810
3910	5-p	Brougham 4d.	2,130
4050	7-p	The President	2,345
STUTZ			
		"AA"	
		(131 in. W. B.)	
4058	2-4-p	Speedster	$3,150
4175	4-p	Speedster	3,160
4334	5-p	Brougham	3,195
4340	5-p	Sedan	3,195
4176	4-p	Vic. Coupe	3,175
4182	2-4-p	Coupe	3,165
		(145 in. W. B.)	
.....	5-p	Tour. Bro'm	$3,685
4656	7-p	Sedan	$3,685
4731	7-p	Sedan Lim.	3,785
VELIE			
		"Spec. 60"	
3025	5-p	Club Phaeton	$1,450
2908	3-p	Coupe	1,450
3175	5-p	Sedan	1,450
3340	5-p	Royal Sedan	1,785
3350	5-p	DeLuxe Sedan	2,050
		"Std. 50"	
		(112 in W. B.)	
2850	3-p	Coupe	$1,045
2900	5-p	Sedan	1,045
WILLS SAINTE CLAIRE			
		"T-6" (127 in. W. B.)	
3675	5-p	Traveler	$2,700
3580	4-p	Roadster	2,700
3750	4-p	Cab. Roadster	3,350
3900	5-p	Std. Sedan	3,150
3970	7-p	Sedan	3,250
4080	7-p	Limousine	3,350
WILLYS-KNIGHT			
		"66"	
3323	2-p	Roadster	$1,350
3395	5-p	Touring	1,750
3566	7-p	Touring	1,950
.....	2-4-p	Coupster	2,295
3604	4-p	Coupe	2,195
3686	5-p	Sedan	2,295
3822	7-p	Sedan	2,495
		"70"	
3346	5-p	Touring	$1,395
.....	2-p	Coupe	1,395
3353	5-p	Sedan	1,395
3050	5-p	Sedan	1,495

Mechanical Specifications of Current Passenger Car Models

This list comprises cars distributed on a national basis

MAKE AND MODEL	Wheel Base (Inches)	Tire Size Decimals-Balloons	ENGINE: Make and Model	Number of Cyls., Bore and Stroke	Rated H.P. N.A.C.C.	Piston Displacement	Valve Arrangement	Camshaft Drive	Piston Material	No. Main Bear.	Crankshaft Vib'n Damper?	Oiling System	Oil Cleaner?	Cooling System	Thermostat?	Radiator Shutters?	Carburetor Make	Air Cleaner?	ELECTRICAL SYSTEM: Ignition System Make	Generator and Starter Make	Clutch—Type and Make	Gear Set—Make	Universals—Type and Make	REAR AXLE: Type and Make	Gear Ratio	BRAKES: Foot—Type and Location	Hand—Type and Location	4-Wheel Type—Optional?	Steering Gear—Make	Rear Springs—Type and Length	Chassis Lubrication—Type and Make
Auburn	4-44	120	30x5.25	Lyc. CF	4-3⅝x5	21.0	206	L	He.	Al.	5	N	P C.	N	Th.	N	N	Zen.	N	Remy.	Remy.	P.B&B.	W-G.	m-U-P.	½ Sal.	5.10	E-F.	E-T	H	Ross.	S-56¾	Oc-Ju
Auburn	6-66	120	30x5.25	Cont. 28L	6-2⅞x4¾	19.8	185	L	Ch.	C I.	4	Y	PK.	....	Pu.	N	N	Sch.	N	Remy.	Remy.	P.Long.	War.	m-U-P.	½ Col.	4.9	B-F.	E-T	M	Ross.	S-56¾	Pr-Al.
Auburn	8-77	125	29x5.25	Lyc. GT	8-2¾x4¾	24.2	226	L	Ch.	....	5	Y	PK.	....	Pu.	....	....	Sch.	....	Remy.	Remy.	P.Long.	War.	m-U-P.	½ Col.	4.7	B-F.	E-T	M	Ross.	S-56¾	Pr-Al.
Auburn	8-88	129-146	31x6.00	Lyc. 4HM	8-3¼x4½	33.8	299	L	Ch.	Al.	5	N	P C.	F	Pu.	Y	N	Sch.	N	Remy.	Remy.	D.Long.	W-G.	m-U-P.	½ Col.	4.45	B-F.	E-T	M	Ross.	S-57	Pr-Dot
Buick	115	114½	31x5.75	Own.	6-3⅛x4½	23.4	207	I	He.	C I.	4	Y	P C.	F	Pu.	Y	N	Mar.	Y	D-R.	D-R.	D.Own.	Own.	m-Own.	¾ Own.	4.90	E-F.	I-R.	M	Jac.	V-48	Pr-Ze.
Buick	120 & 128	120-128	33x6.00	Own.	6-3½x4¾	29.4	274	I	He.	C I.	4	Y	P C.	F	Pu.	Y	N	Mar.	Y	D-R.	D-R.	D.Own.	Own.	m-Own.	Fl Own.	4.7°	E-F.	I-R.	M	Jac.	V-47⅝	Pr-Ze.
Cadillac	314	132-138	33x6.75	Own. 314	8-3⅛x5⅛	31.2	314	L	Ch.	C I.	3	N	PK.	F	Pu.	Y	Y	Own.	N	D-R.	D-R.	D.Own.	Own.	m-Spi.	Fl Own.	4.91	B-F.	I-R.	M	Jac.	S-60	Pr-Al.
Case	Y	132	34x7.30	Con. 6J	6-3¾x5	33.7	331	L	He.	C I.	4	N	P C.	N	Pu.	Y	N	Sch.	N	Delco	Delco	D.Own.	Own.	f-Sne.	¾ Col.	4.45	E-F.	E-T	H	Ross.	S-57	Pr-Sa.
Case	JIC	122	32x6.20	Con. 8R	6-3⅜x4½	27.3	242	L	He.	C I.	4	N	P C.	N	Pu.	Y	N	Sch.	N	Delco	Delco	D.Own.	Own.	f-Sne.	½ Col.	4.90	E-F.	E-T	H	Ross.	S-54¾	Pr-Sa.
Chandler	Big 6	124	33x6.00	Own. Big 6	6-3½x5	29.4	289	L	Ch.	C I.	4	Y	P F.	F	Pu.	Y	N	Til.	Y	D-R.	D-R.	P.B&B.	Own.	f-Own.	¼ Own.	4.45	E-F.	E-T	M	Own.	S-59¼	Bowen
Chandler	Stdd. 6	108½	30x4.75	Own. Stdd 6	6-3x4¼	21.6	180	L	Ch.	C I.	3	Y	P F.	F	Pu.	Y	N	Til.	Y	D-R.	D-R.	P.B&B.	Own.	f-Pick.	½ Own.	4.90	E-F.	E-T	M	Gem.	S-51	Bowen
Chandler	Spec. 6	115	31x5.25	Own. Spe. 6	6-3⅛x4¾	23.4	219	L	Ch.	C I.	3	Y	P F.	F	Pu.	Y	N	Sch.	Y	D-R.	D-R.	P.B&B.	Own.	f-Sne.	½ Own.	4.90	E-F.	E-T	M	CAS.	S-54	Bowen
Chevrolet	V	103	{30x3½ 2S {29x4 4O	Own. Sup.	4-3⅛x4	21.8	171	I	He.	C I.	3	....	P S.	N	Pu.	N	....	Car.	N	Remy.	Remy.	P.Own.	Own.	m-Own.	½ Own.	3.82	E-R	I-R.	N	Own.	S-54	Pr-Al.
Chrysler	"80"	185-198½	30x6.75	Own.	6-3½x5	29.4	288	L	Cb.	Spe.	7	Y	P F.	Y	Pu.	Y	N	Str.	Y	Remy.	Remy.	P.G&H.	Own.	m-U-P.	½ Own.	4.18 4.64	E-F.	E-T	H	Ross.	S-58	Pr-Ze Ow
Chrysler	"50"	153‡	29x4.75	Own.	4-3⅝x4⅛	21.0	170	L	He.	Al.	3	N	P C.	N	Th.	N	N	Bal.	N	Remy.	Remy.	P.Roc.	Own.	f-	½ Own.	4.70	E-R	E-T	N	Gem.	S-53½	Pr-Ze.
Chrysler	"60"	156‡	28x5.25	Own.	6-3x4¼	21.6	180	L	Ch.	Spe.	7	Y	P F.	F	Pu.	N	N	Str.	Y	Remy.	Remy.	P.G&H.	Own.	m-Spl.	½ Own.	4.9 4.6	E-F.	E-T	H	Ross.	S-53	Pr-Ze.
Chrysler	"70"	162½‡	30x6.00	Own. G	6-3⅛x4¾	23.4	218	L	Ch.	Spe.	7	Y	P F.	F	Pu.	Y	N	Bal.	Y	Remy.	Remy.	P.G&H.	Own.	m-U-P.	½ Own.	4.30	E-F.	E-T	H	Gem.	S-51⅝	Pr-Ze.
Cunningham	V-7	132-142	33x6.75	Own. V7	8-3¾x5	45.0	442	L	He.	C I.	3	N	P F.	N	Pu.	Y	N	Str.	N	Delco	Delco	D.Own.	Own.	f-Spi.	Fl Tim.	4.23	I-F.	I-F.	M	Ross.	J-62	Pr-Al.
Dagmar	6-60	120	32x6.20	Lyc. 4S	6-3¼x4½	25.3	224	L	Ch.	C I.	4	....	P C.	N	Pu.	N	....	Sch.	N	Delco	Delco	P.B&B.	W-M.	m-Spi.	½ Sal.	5.10	E-R	E-T	H*	Ross.	S-52	Pr-Al.
Dagmar	6-70	138	33x5†	Con. 6J	6-3¾x5	33.8	331	L	He.	C I.	4	....	P C.	N	Pu.	N	....	Sch.	N	Delco	Delco	D.B-L.	B-L.	m-Spi.	½ Tim.	4.90	E-R	I-R.	N	Gem.	S-52	Pr-Al.
Davis	92-27	115	32x6.00	Con. 11U	6-3¼x4⅝	25.3	230	L	Ch.	C I.	7	Y	P C.	N	Pu.	N	N	Str.	Y	Delco	Delco	P.B&B.	W-G.	m-Pet.	¾ Col.	4.90	E-F.	E-T	H	Ross.	S-52	Pr-Al.
Davis	94-27	109	29x4.95	Con. 20L	6-2¾x4¾	18.1	169	L	Ch.	Al.	4	Y	P C.	N	Pu.	N	N	Til.	N	Delco	Delco	P.B&B.	W-G.	m-Pet.	½ Col.	5.37	E-F.	E-T	H	Ross.	S-51½	Pr-Al.
Diana	St. 8	125½	32x6.00	Cont. 12Z	8-3 x4¼	28.8	240	L	Ch.	C I.	5	Y	PK.	F	Pu.	N	Y	Str.	Y	Delco	Delco	P.B&B.	War.	m-Mec.	½ Col.	5.10	E-F.	E-T	H	Ross.	S-54¼	Pr-Al.
Dodge Brothers		116	31x5.25	Own.	4-3⅞x4½	24.0	212	L	He.	Al.	5	N	P S.	N	Pu.	N	N	Ste.	Y	N-E.	N-E.	D.Own.	Own.	m-Own.	½ Own.	4.16	E-R	I-R.	N	Own.	S-55	Pr-Ze.
Duesenberg	St. 8	134-141	33x5	Own. A	8-2⅞x5	26.4	260	I	BO.	Al.	3	N	PK.	Y	Pu.	Y	N	Sch.	N	Delco	Delco	P.Own.	Own.	f-Cli.	½ Own.	4.90	I-F.	E-T	H	Ross.	S-59	Pr-Do.
DuPont	E	125	32x6.20	Wis. Y	6-3⅜x5	27.3	268	I	Ch.	C I.	3	N	P C.	N	Pu.	N	N	Sch.	N	Bosch.	Bosch.	D.Long.	Cpl.	m-Alm.	½ Col.	4.7	E-F.	E-T	H	Ross.	S-60	Pr-A-Z
Elcar	4-55	116	30x5.25	Lyc. CE	4-3⅛x5	21.8	213	L	He.	Al.	5	N	P C.	N	Th.	N	N	Swan.	N	Remy.	Remy.	P.Long.	W-G.	m-Mec.	½ Sal.	4.82	E-R	E-T	H*	Ross.	S-51	Pr-Al.
Elcar	6-65	116	30x5.25	Lyc. 4SM	6-3¼x4½	25.3	224	L	Ch.	C I.	4	N	P C.	N	Pu.	N	N	Swan.	N	Remy.	Remy.	P.Long.	W-G.	m-Mec.	½ Sal.	4.82	E-F.	E-T	H	Ross.	S-51	Pr-Al.
Elcar	6-70	117	28x5.25	Lyc. WT	6-2⅞x4¾	19.8	185	L	Ch.	C I.	4	N	P C.	N	Pu.	N	N	Swan.	N	D-R.	D-R.	P.Long.	W-G.	m-	½ Sal.	4.9	E-F.	E-T	H	Ross.	S-51	Oc-
Elcar	8-82	123	30x6.00	Lyc. GT	8-2⅝x4¾	24.2	226	L	Ch.	C I.	5	Y	PK.	Y	Pu.	Y	N	Swan.	N	D-R.	D-R.	P.Long.	W-G.	m-	½ Sal.	4.6	E-F.	E-T	H	Ross.	S-55⅞	Pr-Al.
Elcar	8-90	127-132	32x6.20°	Lyc. 4HM	8-3¼x4½	33.8	299	L	Ch.	C I.	5	Y	P C.	Y	Pu.	N	N	Swan.	N	Remy.	Remy.	D.Long.	W-G.	m-Mec.	½ Sal.	4.82	E-F.	E-T	H	Ross.	S-58	Bowen
Essex	6	110½	30x4.75	Own. 6	6-2½x4¼	17.3	145	L	Ch.	Al.	3	N	P S.	N	Th.	N	Y	Ste.	N	A-L.	A-L.	L Own.	Own.	m-Spi.	½ Own.	5.60	E-R	I-R.	N	Own.	S-54⅞	Ow
Flint	Z-18	110	30x5.25	Con. 9L	6-2¾x4¾	18.1	169	L	Ch.	Al.	4	N	PK.	N	Pu.	N	N	Joh.	N	A-L.	A-L.	P.Own.	Own.	m-U-M.	½ Own	4.87	E-R	E-T	N	Own.	S-52	Pr-Ze.
Flint	60	115	30x5.77▲	Con. 14U	6-3¼x4⅝	25.3	230	L	Ch.	C I.	7	N	PK.	Y	Pu.	Y	N	Sch.	Y	A-L.	A-L.	P.Own.	Own.	m-Spl.	½ Own	4.77 4.09	I-F.	E-T	H	Ross.	S-51½	Pr-Ze.
Flint	80	120	32x6.20	Con. 6E	6-3⅜x5	27.3	268	L	Ch.	C I.	7	Y	P C.	Y	Pu.	Y	N	Str.	Y	A-L.	DeJo.	P.Own.	Own.	m-Spl.	½ Own.	4.77	I-F.	E-T	H	Ross.	S-55	Pr-Ze.
Ford	T	100	29x4.40	Own. T	4-3¾x4	22.5	177	L	He.	C I.	3	N	Sp.	N	Th.	N	N	Hol.	N	Own.	Own.	D.Own.	Own.	m-Own.	½ Own.	3.63	E-T	I-R.	N	Own.	O-43½	OG
Franklin	11	119	31x5.25	Own. 11	6-3¼x4	25.3	199	I	Ch.	Al.	7	Y	P C.	Y	A.	N	O	Str.	Y	A-K.	Dyn.	P.B-L.	Own.	m-Spi.	½ Own.	4.73	E-T	E-R	N	Own.	E-38	Pr-Ze.
Gardner	6B	118	31x5.25	Lyc. 4SM	6-3¼x4½	25.3	224	L	Ch.	C I.	4	N	P C.	N	Pu.	Y	N	Sch.	N	Remy.	Remy.	P.B&B.	War.	m-Cle.	½ Col.	4.90	I-F.	I-R.	M	Ross.	S-57	Pr-Al.
Gardner	80	122	30x5.25	Lyc. GT	8-2¾x4¾	24.2	226	L	Ch.	C I.	5	Y	PK.	F	Pu.	Y	N	Sch.	Y	D-R.	D-R.	P.B&B.	W-G.	m-Cle.	½ Col.	4.89	I-F.	E-T	M	Ross.	S-57	Pr-Ba.
Gardner	90	130	32x6.00	Lyc.	8-3¼x4½	33.8	298	....	Ch.	C I.	5	Y	P C.	F	Pu.	Y	N	Sch.	Y	D-R.	D-R.	P.B&B.	W-G.	m-Cle.	½ Col.	4.25	I-F.	E-T	M	Ross.	S-57	Pr-Al.
Hertz	D-1	114	30x5.77	Con. 18U	6-3¼x4⅝	25.3	230	L	Ch.	C I.	7	Y	P F.	N	Pu.	N	N	Zen.	Y	Delco.	Delco.	D.Long.	Det.	m-Alm.	½ Tim.	4.89	I-F.	E-T	M	Ross.	S-56	Pr-Al.
Hudson	Super 6	127¾	33x6.00	Own. 6	6-3½x5	29.4	288	L	Ch.	Al.	4	N	P S.	N	Pu.	N	Y	Ste.	N	A-L.	A-L.	D.Own.	Own.	m-Spi.	½ Own.	4.45	E-R	I-R.	N	Gem.	S-57⅛	Ow
Hupmobile	A-1	114	30x5.25	Own. "A"	6-3⅛x4¼	23.4	196	L	Ch.	C I.	4	Y	P C.	Y	Pu.	Y	N	Str.	N	A-L.	A-L.	P-B&B.	Det.	m-Mec.	½ Own.	4.90	B-F.	E-R	M	Ross.	S-54	Pr-Al.
Hupmobile	E-3	125	32x6.00	Own. E	8-3 x4¾	28.8	268	L	Ch.	C I.	5	Y	PK.	F	Pu.	Y	N	Str.	Y	Delco	A-L.	D.Long.	Det.	m-U-P.	½ Own.	4.9°	E-F.	E-T	H	Ross.	S-56½	Pr-Al.
Jewett	6-45	109	30x5.25	Con. Spec.	6-2⅞x4¾	19.8	185	L	Ch.	C I.	4	N	PK.	N	Pu.	N	N	Joh.	Y	Remy.	Remy.	P.Roc.	War.	m-Mec.	½ Sal.	4.45	E-F.	E-T	H	Gem.	S-54	Pr-Ze.
Jordan	AA	125½	32x6.20	Con. 9K	8-3 x4⅜	28.8	268	L	Ch.	C I.	5	Y	PK.	N	Pu.	N	N	Str.	Y	Bosch.	Bosch.	P.Det.	Det.	m-Alm.	½ Tim.	4.64	E-F.	E-T	H	Gem.	S-55¾	Pr-Al.
Jordan	J-1	116	32x6.00	Con. 8S	8-2⅞x4¾	26.4	247	L	Ch.	C I.	5	Y	P F.	N	Pu.	Y	N	Str.	Y	Bosch.	Bosch.	P.Long.	War.	m-Alm.	½ Tim.	4 45 4.65	E-F.	E-T	H	Gem.	S-55¾	Pr-Al.
Kissel	55	124	33x6.00	Own. 55	6-3⅛x5⅛	32.6	265	L	Ch.	Al.	3	N	P F.	Y	Pu.	Y	N	Sch.	Y	Remy.	Remy.	P.B&B.	W-G.	m-Spl.	½ Tim.	4.09	E-F.	E-T	H	Ross.	S-60	Pr-Da.
Kissel	75	131-139	33x6.00	Own. 75	8-3⅛x4½	32.6	287	L	Ch.	Al.	5	Y	P F.	Y	Pu.	Y	N	Sch.	Y	Remy.	Remy.	P.B&B.	W-G.	m-Spi.	½ Tim.	4.89	E-F.	E-T	H	Ross.	S-60	Pr-Da.
Lincoln	8	136	33x5†	Own. 8	8-3⅜x5	36.4	358	L	Ch.	Al.	5	N	P C.	N	Pu.	N	Y	Str.	Y	Delco	Delco	D.Own.	Own.	m-Spl.	Fl Tim.	4.58	I-F.	E-R	M	Own.	S-60	Pr-Ai

KEY TO SYMBOLS

°—Others Furnished
•—At extra cost
§—Standard open models—Balloons at extra cost.
†—Balloons at extra cost
‡—Overall Length
½—Semi-floating
¾—Three-quarter floating
A—Air
Al—Aluminum
A-Z—Alemite-Zerk
B—Semi-steel
B-F—Both internal and external, four wheels
BO—Bevel Gear Overhead shaft
Ch—Chain
CI—Cast Iron
CO—Chain; Overhead shaft
Cu—Oil and grease cups
D—Multiple disk
E—Full elliptic
E-F—External four wheels
E-R—External rear wheels
E-T—External transmission
f—Fabric
F—Filter
Fl—Full floating
G—Head and side
Gr—Grease cups
H—Horizontal (valves)
H—Hydraulic (brakes)
He—Helical gear
Hol—Holley
I—In head
I-F—Internal four wheels
I-R—Internal rear wheels
J—Three-quarter elliptic
K—Cone
L—L head
m—Metal
M—Mechanical
N—None
N—Platform (rear springs)
O—Optional (brakes)
O—Special type (rear springs)
Oc—Oil cups
OG—Oil and Grease Cups
Ow—Oil cups with wick feed
P—Single plate
Pr—Pressure gun
PC—Pressure to all crankshaft and connecting rod bearings
PF—Full pressure to all bearings
PK—Pressure to crankshaft, connecting rods and camshaft bearings
PS—Splash with pressure
Pu—Pump
Q—Quarter elliptic
R—Rectifier
S—Semi-elliptic
Se—Servo
Sep—Separate
Sp—Splash (lubrication)
Sp—Spur gear (camshaft drive)
Spe—Special make
Sta—Standard
T—T head
Th—Thermo-syphon
V—Cantilever
Var—Varies
X—Sleeve valve
Y—Yes

ABBREVIATIONS—NAMES OF MFRS. OF STOCK PARTS

A-K—Atwater-Kent
A-L—Auto-Lite
Ada—Adams
Al—Alemite
Alm—Almetal
Ans—Ansted
B&B—Borg & Beck
B-L—Brown-Lipe
Bal—Ball & Ball
Ba—Bassic cups
Car—Carter
CAS—CAS Products
Cle—Cleveland
Cli—Climax
Con—Continental
Col—Columbia
Cpl—Campbell
Da—Dawson
DeJo—DeJon
Det—Detroit
Do—Dot
D-R—Delco-Remy
Dur—Durston
Dyn—Dyneto
Eat—Eaton
Fli—Flint
Ful—Fuller
Gdr—Goodrich
Gem—Gemmer
G & H—Guay & Haigh
Hoo—Hoosier
Jac—Jacox
Joh—Johnson
Ju—Justrite
L-N—Leece-Neville
Lav—Lavine
Lyc—Lycoming
M&E—Merchant&Evans
Mar—Marvel
Mec—Mechanics Machine
Mun—Muncie
N-E—North East
Nor—Northway
Pet—Peters
Ray—Rayfield
Roc—Rockford
Sa—Saal
Sal—Salisbury
Sch—Schebler
Sne—Snead
Spe—Special Make
Spi—Spicer
Spl—Splitdorf
Ste—Stewart
Stl—Sterling
Str—Stromberg
Thr—Thermoid
The—Thiemer
Til—Tillotson
Tim—Timken
U-M—Universal Machine
U-P—Universal Products
W-G—Warner Gear
War—Warner
Wes—Westinghouse
W-M—Willys-Morrow
Wis—Wisconsin
Ze—Zerk
Zen—Zenith

(Continued on page 42)

(Continued on page 42)

Fifty Body Styles and Types
Five Hundred Color Combinations

Priced from
$2995 upward
f. o. b. Detroit

COMPETITION revolves all around Cadillac but never quite breaks into the charmed circle of Cadillac ownership. Cadillac dependability is so satisfying; its performance is so thrilling; its smooth riding and easy handling are so restful, that each month new thousands turn to this great car—the new 90-degree, eight-cylinder Cadillac—for the complete satisfaction of all their motoring needs and desires. They know that only the new Cadillac *can* fulfill all their expectations.

NEW 90 DEGREE

CADILLAC

DIVISION OF GENERAL MOTORS CORPORATION

Mechanical Specifications of Current Passenger Car Models—Continued

(From page 40)

MAKE AND MODEL	Wheel Base (Inches)	Tire Size Decimals-Balloons	ENGINE: Make and Model	Number of Cyls., Bore and Stroke	Rated H.P. N.A.C.C.	Piston Displacement	Valve Arrangement	Camshaft Drive	Piston Material	No. Main Bear.	Crankshaft Vib'n Damper?	Oiling System	Oil Cleaner?	Cooling System	Thermostat?	Radiator Shutters?	Carburetor Make	Air Cleaner?	ELECTRICAL SYSTEM: Ignition System Make	Generator and Starter Make	Clutch—Type and Make	Gear Set—Make	Universals—Type and Make	REAR AXLE: Type and Make	Gear Ratio	BRAKES: Foot—Type and Location	Hand—Type and Location	4 Wheel Type (*=Optional)	Steering Gear—Make	Rear Springs—Type and Length	Chassis Lubrication—Type and Make
Locomobile	Jr. 8	124	30x5.77	Own	8-P	8-2½x4	25.3	199	I	Ch.	C I.	5	Y	P F.	F	Pu.	N	N	Str.	Y	DeJo.	DeJo.	P.Spi.	War	m-U-M.	½ Ada.	4.77 5.11	I-F.	I-R.	Se	War.	S-55⅛	Pr-Ze.
Locomobile	48	142	33x6.75	Own	48	6-4½x5½	48.6	525	T	He.	C I.	7	Y	P F.	F	Pu.	Y	N	Bal.	N	Delco	Wes.	P.Own.	Own.	m-Spl.	Fl Own.	3.50	B-F.	I-R.	M	Ross.	J-50	Pr-Ze.
Locomobile	"90"	138	33x6.75	Own	90	6-3⅞x5¼	36.0	372	L	Ch.	C I.	7	Y	P C.	F	Pu.	Y	N	Str.	Y	DeJo.	DeJo.	P.Own.	Own.	m-Spi.	½ Eat.	4.5 4.15	I-F.	I-R.	Se	Ross.	S-60.	Pr-Ze.
Marmon	Little	116	29x5.25	Own	8-23/4x4	24.2	190	I	Ch.	Al.	5	Y	PK.	F	Pu.	N	N	Sch	N	D-R.	D-R.	P.				Var.	I-F.	I-F.	M	Ross.	J-50	Pr-Ze.
Marmon	E-75	136	32x6.75	Own	E-75	6-3¾x5⅛	33.8	340	I	He.	C I.	3	Y	P F.	Y	Pu.	N	N	Sch	N	D-R.	D-R.	P.B&B.	Own			4.15	I-F.	I-R.	Se	Ross.	S-60.	Pr-Ze.
McFarlan	SV	127	33x6.20	Wis	Y	6-3⅜x5	27.3	268	I	Ch.	C I.	3	....	P F.	N	Pu.	N	N	Sch	N	D-R.	D-R.	P.										
McFarlan	St. 8	131	33x6.20	Lyc	4H	8-3¼x4½	33.8	299	L	Ch.	C I.	5	....	P C	N	Pu.	N	....	Ray	N	Delco.	Delco.	D.Long.	W-G	m-			Var.	I-F.	I-R.	M	Gem.	Tr-45.	Bowen
McFarlan	TV	141¼	33x6.75	Own	TV	6-4½x6	48.6	573	L	He.	Al.	4	....	P C.	N	Pu.	N	....	Swan	N	Delco.	Delco.	P.B&B.	W-G	m-Cle.	½ Tim.	4.27	E-F.	E-T	H	Ross.	S-58½	Bowen
Moon	Series A	113	30x5.25	Con	72	6-3½x4¼	23.4	196	T	Ch.	C I.	4	N	P C.	N	Pu.	N	....	Swan	N	DeJo.	DeJo.	P.B&B.	B-L	m & f	½ Tim.	5.11	E-F	E-T	H	Ross.	S-58½	Ow
Moon	6-60	110	29x4.75	Con	26L	6-2⅞x4¾	19.8	185	L	Ch.	CI.	4	N	P C.	N	Pu.	N	N	Str	N	Delco.	Delco.	P.B&B.	W-G	m-Spi	½ Tim.	3.53	E-F.	I-R.	H	Ross.	S-64.	Bowen
Nash	Light Six	108	30x4.75	Own		6-3x4	21.6	170	L	He.	C I.	7	N	P C.	N	Pu.	N	N	Car	Y §	Delco.	Remy.	P.B&B.	W-G	m-Spi	½ Col.	4.90	E-F.	E-T	H	Ross.	S-64.	Bowen
Nash	Advanced	121-127	33x6.00	Own	261	6-3 7/16x5	28.4	279	I	He.	C I.	7	N	P F.	Y §	Pu.	N	Y	Car	Y §	Delco.	Remy.	P.B&B.	W-G	m-Spi	½ Col.	4.89	E-F.	E-T	H	Ross.	S-64.	Bowen
Nash	Special	112½	31x5.25	Own	231	6-3¼x4½	25.3	224	I	He.	C I.	7	Y	P F.	Y	Pu.	N	Y	Mar.	Y	A-L.	A-L.	P.B&B.	Own.	f-Thr	½ Own.	4.80	B-F.	E-T	M	Ross.	-54.	Pr-Al.
Oakland	"6"	113	30x5.25	Own	OS	6-2⅞x4¾	19.8	185	L	Ch.	B	3	Y	P K	Y	Pu.	Y	N	Mar.	Y	Delco.	Delco.	P.B&B.	Own.	{m-Own. {f-Thr	½ Own.	4.50	B-F.	E-T	M	Gem.	S-56½	Pr-Al.
Oldsmobile	30E	110¼	30x5.25	Own	30E	6-2⅞x4¾	19.8	185	L	Ch.	C I.	3	Y	P C.	Y	P&T	N	N	Mar.	Y	Delco	Remy.	P. Own.	Mun.	m-Mec.	½ Own.	4.67	B-F.	E-T	M	Gem.	S-53⅞	Pr-Al.
Overland	Whippet	100¼	27x4.40	Own		4-3⅛x4⅜	15.6	134	L	Ch.	C I.	3	N	P C.	N	Pu.	N	N	Joh	Y	D-R.	D-R.	P.B&B.	Mun.	f-Gdr.	½ Own.	4.73	E-F.	E-T	M	Jac.	S-52½	Pr-Ze.
Overland	93	112¾	29x4.95	Own	93	6-3 x4	21.6	170	L	He.	C I.	3	N	P C.	N	Pu.	N	N	Til.	N	A-L.	A-L.	P.B&B.	Own.	m-Mec.	½ Own.	4.73	B-F.	E-R	M	Jac.	S-50¼	Pr-Al.
Packard	6	126-133	33x5.77	Own	6	6-3½x5	29.4	289	L	Ch.	Al.	3	Y	P C.	N	Pu.	N	N	Til.	N	A-L.	A-L.	P.B&B.	Own.	m-Mec.	½ Own.	4.55	I-F.	I-R.	M	Own.	48½	OG
Packard	8	136-143	33x6.75	Own	8	8-3½x5	39.2	385	L	Ch.	Spe.	9	N	P F.	N	Pu.	N	N	Own.	N	Delco	Dyn.	P. Own.	Own.	m-Mec.	½ Own.	5.11	E-R	E-T	M*	Own.	S-52	Pr-Al.
Paige	6-75	125	32x6.00	Own	75	6-3⅜x5	27.3	268	L	Ch.	Al.	3	N	P K	N	Pu.	N	N	Own.	N	Delco	Dyn.	P. Own.	Own.	m-Mec.	½ Own.	4.67	I-F.	I-R.	M	Own.	S-52½	Pr-Al.
Paige	6-65	115	31x5.25	Own	65	6-3½x5	25.3	249	L	Ch.	C I.	3	N	P F.	N	Pu.	N	N	Joh	Y	A-K.	Remy.	D.Long.	W-G	m-Mec.	½ Own.	4.33	I-F.	I-R.	M	Own.	S-56.	Bijur
Peerless	6-72	126½-133½	33x6.00	Own	72	6-3½x5	29.4	289	L	Ch.	Al.	3	N	P K	N	Pu.	N	Y	Joh	Y	A-K.	Remy.	D.Long.	.....	m-Mec.	½ Sal.	4.82	E-F.	E-T	H	Own.	S-56.	Bijur
Peerless	6-80	116	32x6.00	Con	8U	6-3¼x4⅝	25.3	230	L	Ch.	Al.	7	3	P K	N	Pu.	N	Y	Joh	Y	Delco.	Delco.	P.B&B.	W-G	m-Mec.	½ Sal.	4.45	E-F.	E-T	H	Gem.	S-58.	Pr-Ze.
Peerless	6-69	133½	33x6.20	Own	69	8-3¼x5	33.8	332	L	He.	C I.	3	N	P K	N	Pu.	N	Y	Str	Y	A-L.	A-L.	P.B&B.	Own.	m-Spi	½ Eat.	4.42	E-F.	I-R.	H	Gem.	S-54.	Pr-Ze
Peerless	6-90	120	32x6.00	Own	90	6-3½x5	29.4	289	L	Ch.	Al.	7	....	P K.	N	Pu.	N	Y	Str	Y	Delco.	Delco.	P.B&B.	Own.	m-Spi	½ Col.	4.4°	E-F	E-T	H	Ross.	S-56.	Pr-Al.
Pierce Arrow	36	138	33x6.75	Own	36	6-4 x5½	38.4	415	L	He.	C I.	7	Y	P F.	F	Pu.	N	Y	Str	Y	A-L.	A-L.	P. B&B.	Det.	m-Spi	½ Eat.	4.42	E-F.	I-R.	H	Ross.	S-56.	Pr-Al.
Pierce Arrow	80	130	32x5.77	Own	80	6-3½x5	29.4	289	L	Ch.	C I.	7	Y	P F.	F	Pu.	N	Y	Str	Y	Delco.	Delco.	P.B&B.	Own.	m-Spi	½ Col.	4.4°	E-F.	E-T	H	Ross.	S-54.	Pr-Ze.
Pontiac	Six	110	29x4.75	Own	6-27	6-3¼x3¾	25.3	186	L	Ch.	B	3	Y	P C.	Y	Pu.	N	Y	Own.	N	Delco.	Delco.	P.B&B.	B-L	m-Spi	½ Own.	4.29	I-F	I-R.	M	Gem.	S-54.	Pr-Al.
Reo	A	121	30x6.20	Own	A	6-3¼x5	25.2	249	L	Ch.	Al.	7	Y	P F.	F	Pu.	N	Y	Car	N	Delco.	Delco.	P.B&B.	B-L	m-Spi	½ Tim.	4.45	I-F.	I-R.	M	Gem.	S-61¾	Pr-Ze.
Rickenbacker	E	117	31x5.25	Own	E	6-3¼x4¾	25.3	236	L	Ch.	C I.	7	Y	P C.	Y	Pu.	N	N	Str	Y	Remy.	Remy.	P. Own.	Own.	m-Own.	½ Own.	4.18	E-R	I-R.	N	Jac.	S-54.	Pr-Ze.
Rickenbacker	B-8	121½	33x6.00	Own	B-8	8-3¼x4¾	33.8	315	L	Ch.	C I.	9	Y	P C.	Y	Pu.	N	N	Zen	Y	Remy.	Remy.	P.Long.	Own.	m-Det.	½ Own.	4.5°	I-F.	E-T	M	Ross.	S-55	Pr-Ze.
Roamer	6-54-E	118-138	32x4½†	Con	9N	6-3½x5¼	29.4	306	L	He.	C I.	3	Y	P S.	Y	Pu.	N	N	Str	N	Bosch.	Bosch.	P. Long.	{Mec {War	m-Mec.	½ Col.	4.70	I-F	E-T	M	Gem.	S-57.	Pr-Al
Roamer	4-75-E	128	32x4½†	R-D	G1	4-4¼x6	28.9	340	H	Ch.	Al.	3	N	P C.	N	Pu.	N	N	Str	N	Delco	Bosch.	P. Long.	War.	m-Mec.	½ Col.	4.70	I-F.	E-T	M	Gem.	S-59.	Pr-Al.
Roamer	6-50-55	115	31x5.25	Con	7U	6-3½x5¼	29.4	306	L	He.	C I.	3	N	P C.	N	Pu.	N	N	Str	N	Spl	Wes.	P.B&B.	Ful.	f-M&E.	¾ Tim.	4.45	E-R	I-R.	M*	Jac.	V-55⅜	Pr-Al.
Roamer	8-80	126	32x6.00	Own	4HM	8-3¼x4½	33.8	296	L	Ch.	C I.	4	N	P C.	N	Pu.	N	N	Sch	N	Spl	Wes.	D.B-L.	B-L.	f-M&E.	¾ Tim.	4.63	E-R	I-R.	M*	Jac.	V-55¾	Pr-Al.
Rolls Royce	Silver Ghost	143½	33x5†	Own	40-50	6-4½x4¾	48.6	453	L	Ch.	C I.	5	Y	P C.	N	Pu.	N	N	Sch	N	A-L.	A-L.	P.B&B.	Dur.	f-U-M.	½ Sal.	4.64	E-F.	E-T	H	Ross.	S-52.	Pr-Al.
Star	4	103	30x3½	Con	W-5	4-3½x4¼	18.2	152	L	He.	Al.	7	Y	P F.	F	Pu.	N	Y	Own.	N	Bosch.	Wes.	K.Own.	Own.	m-Own.	Fl Own.	3.72	I-R.	I-R.	N	Own.	V-54½	Pr...
Star	6	107	30x4.75	Con	14L	6-2¾x4¾	18.2	169	L	Ch.	Al.	3	N	P K	N	Pu.	N	N	Til.	N	A-L.	A-L.	P.Own.	Own.	m-Spi.	½ Own	4.87	E-R	I-R.	N	Own.	S-53¾	Pr-Al.
Stearns Knight	F 6-85	137	32x6.75	Own	F 6-85	6-3½x5	29.4	289	L	Ch.	C I.	4	N	P K	N	Pu.	N	Y	Til.	Y	A-L.	A-L.	P.Own.	Own.	m-Mec.	½ Tim.	4.9	I-F.	I-R.	M	Ross.	S-53¾	Pr-Al
Studebaker	Sta. 6	113	31x5.25	Own		6-3⅜x4½	27.3	242	L	Ch.	C I.	4	N	P K	F	Pu.	N	N	Str	Y	DeJo.	DeJo.	P.B&B.	Own.	m-Spi	½ Own	4.87	E-R	I.R.	N	Own.	S-62.	Pr-Al.
Studebaker	Spec. 6	120	32x6.00	Own		6-3½x5	29.4	289	L	He.	C I.	4	Y	P K	F	Pu.	N	N	Str	Y	{Wag. {Remy	{Wag. {Remy	P.Own.	Own.	f-Thr	½ Own.	4.18	B-F.	E-T	M	Own.	S-50½	Pr-Al.
Studebaker	Big 6	{120 {127	32x6.00} 32x6.75}	Own		6-3⅞x5	36.0	353	L	He.	C I.	4	Y	P K	F	Pu.	N	N	Bal	Y	{Wag. {Remy	{Wag. {Remy	P.Own.	Own.	m-Spi	½ Own.	4.36	E-R	E-T	H*	Own.	S-56.	Pr-Al.
Stutz	AA	131-145	32x6.20	Own		8-3½x4½	33.8	299	I	CO.	B	9	N	P F.	F	Pu.	N	N	Zen	Y	{Wag. {Remy	{Wag. {Remy	P.Own.	Own.	m-Spi	½ Own.	3.69 4.08	B-F	E-T	M	Own.	S-56.	Pr-Al.
Velie	Std. 50	112	29x4.95	Own	54	6-3⅛x4¼	23.4	196	I	He.	C I.	4	N	P F.	N	Th.	N	N	Str	N	Delco.	Delco.	P.B&B.	Det.	m-Mec.	⅛ Tim.	Var.	I-F.	E-T	Hs	Ross.	S-62.	Myers
Velie	Spec. 60	118	30x5.25	Own	52	6-3⅜x4⅝	24.4	221	I	He.	C I.	4	N	P F.	N	Th.	N	N	Str	N	A-L.	A-L.	P.B&B.	W-G	m-Cle.	½ Own.	4.90	E-F.	E-T	H	Ross.	S-55..	Pr-Ze.
Wills Ste. Claire	T6	127	32x6.00 32x6.20	Own		6-3¼x5½	25.4	274	I	BO.	C I.	7	N	P F.	N	Pu.	Y	Y	Sch	N	Delco	Remy.	P.B&B.	Mec.	m-Cle.	½ Own.	4.70	E-F.	E-T	H	Ross.	S-55..	Pr-Do.
Willys Knight	66-A	126	32x6.00	Own	66-A	6-3¼x4¼	25.4	236	X	Ch.	Al.	7	N	P K	R	Pu.	Y	N	Til.	Y	A-L.	Bosch. A-L.	P.B&B.	Own.	m-Spi	½ Tim.	4.45	E-F.	E-T	H	Own.	S-58.	Pr-Al.
Willys Knight	70-A	113¼	32x6.00	Own	70-A	6-2⅞x4⅜	20.7	178	X	Ch.	Al.	7	N	P K	R	Pu.	Y	N	Til.	Y	A-L.	A-L.	P.B&B.	Own.	m-Mec.	¾ Own.	4.70	B-F.	I-R.	M	Own.	S-62¾	Pr-Al
																										½ Own.	5.11	B-F.	E-T	M	Own.	S-55¼	Pr-Al.

KEY TO SYMBOLS

o—Others Used
•—At extra cost
§—On De L. Brougham only
†—Balloons at extra cost
½—Semi-floating
¾—Three-quarter floating
A—Air
Al—Aluminum
Ss—Semi-steel

B-F—Both Internal and external, four wheels
BO—Bevel Gear Overhead shaft
Ch—Chain
CI—Cast iron
CO—Chain; Overhead shaft
Cu—Oil and grease cups
D—Multiple disk
E—Full elliptic
E-F—External four wheels
E-R—External rear wheels
E-T—External transmission
f—Fabric
F—Filter
Fl—Full floating
G—Head and side
Gr—Grease cups
H—Horisontal (valves)
H—Hydraulic (brakes)
Hs—Helical gear
Hs—Hydrostatic
I—In head
I-F—Internal four wheels
I-R—Internal rear wheels
J—Three-quarter elliptic
K—Cone
L—L head
m—Metal
M—Mechanical
N—None
N—Platform (rear springs)
O—Optional (brakes)
O—Special type (rear springs)
Oc—Oil cups
OG—Oil and Grease Cups
Ow—Oil cups with wick feed
P—Single plate
Pr—Pressure gun
PC—Pressure to all crankshaft and connecting rod bearings
PF—Full pressure to all bearings
PK—Pressure to crankshaft, connecting rods and camshaft bearings
PS—Splash with pressure
P&T—Combination Pump and Thermo-syphon
Pu—Pump
Q—Quarter elliptic
R—Rectifier
S—Semi-elliptic
Sep—Separate
Sp—Splash (lubrication)
Sp—Spur gear (camshaft drive)
Spe—Special make
Sta—Standard
T—T head
Th—Thermo-syphon
Tr—Transverse "X" Shape
V—Cantilever
Var—"aries
X—Sleeve valve
Y—Yes

ABBREVIATIONS—NAMES OF MFRS. OF STOCK PARTS

A-K—Atwater Kent
A-L—Auto-Lite
Ada—Adams
Al—Alemite
Alm—Almetal
B&B—Borg & Beck
B-L—Brown-Lipe
Ba—Bassic cups
Car—Carter
Cle—Cleveland
Cli—Climax
Con—Continental
Col—Columbia
Cpl—Campbell
DeJo—DeJon
Det—Detroit
Dit—Ditweiler
Do—Dot
D-R—Delco-Remy
Dur—Durston
Dyn—Dyneto
Eat—Eaton
Fli—Flint
Ful—Fuller
Gdr—Goodrich
Gem—Gemmer
Gi—Gits
Hoo—Hoosier
Jac—Jacox
Joh—Johnson
L-N—Leece-Neville
Lav—Lavine
Lyc—Lycoming
M&E—Merchant & Evans
Mar—Marvel
Mec—Mechanics Machine Co.
Mon—Monson
Mun—Muncie
N-E—North East
Nor—Northway
Pet—Peters
R-D—Rochester-Duesenberg
Ray—Rayfield
Roc—Rockford
Sa—Saal
Sal—Salisbury
Sch—Schebler
Sne—Snead
Spe—Special Make
Spi—Spicer
Spl—Splitdorf
Ste—Stewart
Stl—Sterling
Str—Stromberg
Thr—Thermoid
Til—Tillotson
Tim—Timken
U-M—Universal Machine
U-P—Universal Products
W-G—Warner Gear
Wag—Wagner
War—Warner
Wat—Watford
Wes—Westinghouse
W-M—Willys-Morrow
Wis—Wisconsin
Ze—Zerk
Zen—Zenith

A POLICY PLEDGED TO PROGRESS

Drawing of the figures from C. A. Heber's sculptural interpretation of "The Spirit of Industry"

Heralding a great array of new features of known value and improvements of demonstrated worth, Oldsmobile's midsummer announcement aroused sweeping and nationwide interest.

It was more than the introduction of a new and surpassing Oldsmobile value.

It was more than a matter of increased power, new factors of thrift, new sources of long life, added driving ease and security, still greater beauty and luxury.

It was more than the advent of a car, firm in public favor, made better than ever.

It was a tangible confirmation of Oldsmobile's previously published declaration of purpose . . .

. . . verification of its policy pledged to progress.

* * *

And today this car, in the hands of thousands of owners, exemplifies the fruits of such a policy . . . proves how conscientiously Oldsmobile accepts as a public trust the fulfillment of its purposes:

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SIX

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IT occasionally happens that the manufacturer of a product that is good, elects to introduce it by the distribution of free samples—or by the method of a free trial with returning privileges included.

This does not mean that the manufacturer is giving his product away, nor should the free feature belittle it in the minds of the trade.

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A veritable cameo in clean cut lines and compelling charm.

Just low enough to look over on tiptoe — high enough for a high hat — if you wear one.

Destined to be the second car in every family choosing to deplore the shoddy and preferring to enjoy distinction.

Every inch — every detail — truly custom — just totally different — that's all.

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C-8-A

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CHICAGO, ILL.

APPRECIATION

It is right, as our most successful year draws to a close, to express to MONOGRAM dealers, jobbers and jobbers' salesmen our very sincere appreciation of the splendid support they have given us during this year.

Without this support we could not have made it the biggest year for The Kingsley-Miller Company. And in this support we see frank endorsement and approval of the high quality of our line and the fairness of our sales policy.

The MONOGRAM Cap line is now complete with four types of Automobile Radiator Caps: Standard Bar Cap of all-metal construction; Wing Cap, handsomely veined against a stipple field; Royal Onyx Cap with ball ends of Mexican Onyx and *(new)* Illuminated Onyx Cap with Mexican Onyx ball ends illuminated. Our Gear Shift Balls are in two styles: The Illuminated Onyx type and the Self-Locking Onyx type.

Write Us for Descriptive Literature

To dealers we are offering cash prizes for the best window displays in which our merchandise is shown. MONOGRAM *dealers should ask us for free window display material and imprinted literature.*

THE KINGSLEY-MILLER COMPANY
600 West Jackson Boulevard - Chicago, Illinois

MONOGRAM ORIGINAL
Self Locking Radiator Cap

THE CAP THAT PROTECTS ITSELF AND METER AGAINST THEFT

Announcing

THE

Falcon-Knight

Answering an established demand, there now comes the Falcon-Knight—the first Knight-motored car to sell in the lower price range.

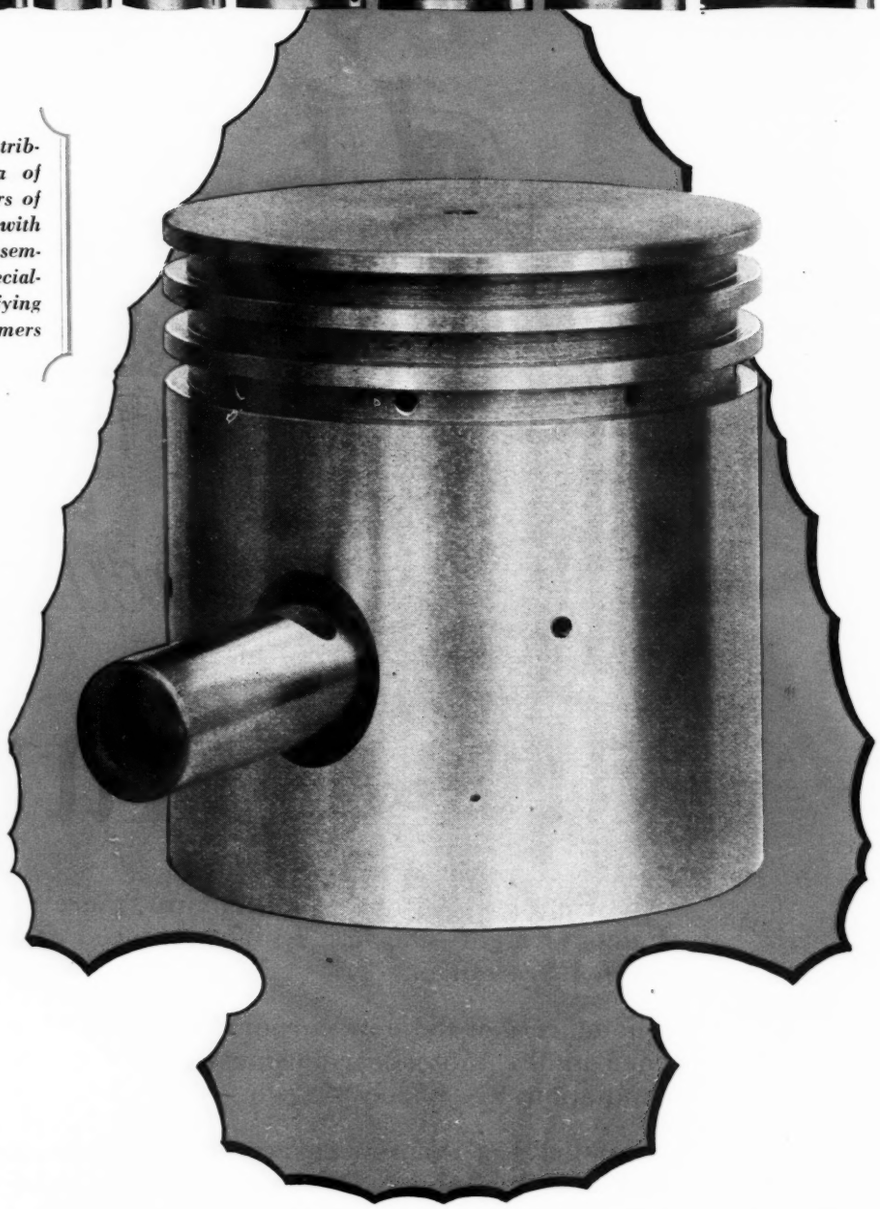
The officers of the new corporation are men of long experience in the motor car business—men whose names and reputations are widely known.

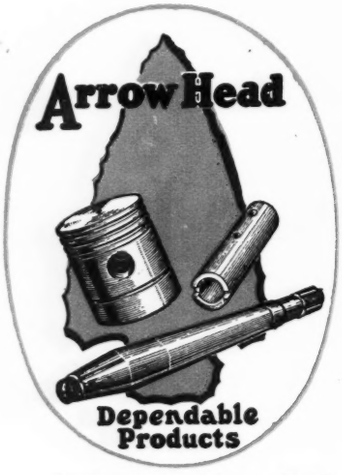
All policies of the new corporation are built on this definite statement by John A. Nichols, Jr., President—"To be permanently successful we must have a product of consistently high quality and wide public appeal; plus a dealer organization that is financially happy."

FALCON MOTORS CORPORATION · · MAJESTIC BUILDING, DETROIT

Falcon Motors Corporation

Arrow Head long ago contributed that economical idea of supplying manufacturers of motors and compressors with complete unit pistons-assembled-with pins. This specialized service has been gratifying to both our valued customers and ourselves.



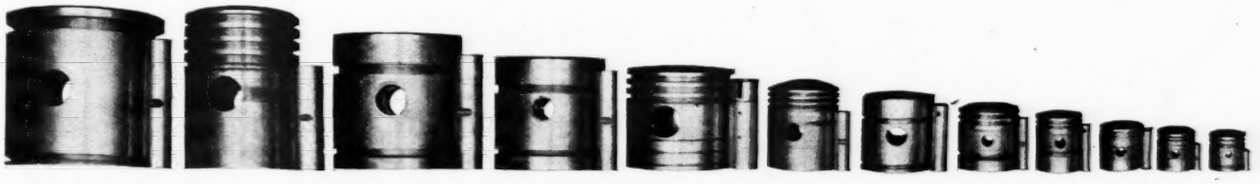


Each genuine Arrow Head part is marked with an Arrow Head.

Arrow Head's most complete and flexible up-to-date line assures quick service on the 4,000 most-called-for fits and applications, including practically "all motors, all years, all models."

Arrow

Pistons & Piston Pins



You Would if We Hadn't!

If Arrow Head on its own initiative had not invested resources of men, material and money in bringing piston and pin manufacture to the highest standards—

> All of you manufacturers of motors, automobiles, trucks, tractors, etc., could have done nothing more helpful to your own business than to organize a plant like Arrow Head—Piston and Pin Laboratory to the Industry—where motor maintenance troubles are dissected, where pistons and pins are brought increasingly nearer to scientific perfection, where flexible manufacturing facilities are always available—for your production runs, overflow runs, service stocks and short runs on obsolescent numbers.

It is only by serving so many manufacturers, both at the plant and in the maintenance field, that we have been able to gather a fund of information about pistons and pins not available elsewhere in its entirety; and only by concentrating and cooperating with the industry have we been able to carry piston manufacture and pin fit to their present point with economy and promptness.

Arrow Head has cooperative headquarters for piston and pin information, whose resources are yours at call. How may we serve you?

ARROW HEAD STEEL PRODUCTS COMPANY

Buffalo MINNEAPOLIS, MINN. Chicago

Head

Axle and Drive Shafts

"Send for literature"

Manufacturers of automotive products cannot always tell their complete story in display advertising.

Frequently, for your convenience, they have prepared at considerable expense, illustrated literature descriptive of their line, which contains information of great value to you.

"Send for literature" at the end of an advertisement may be an invitation to investigate a line which will make a great deal of money for you.

More than one big business enterprise has started that way.

Send for literature. It pays.

MOTOR AGE
5 S. Wabash Ave.
CHICAGO, ILL.

If You Were A Prospect—

—and about to buy a new car you'd haggle over price and sell your old car to the highest bidder, unless some dealer showed you a car that was really different. As a dealer you can put yourself in the exclusive class with Locomobile.

Junior Eight	Model 90	Model 48, Series 10
$1785 to $2285	$5500 to $7500	$7400 to $12,000
Five Body Types	With Custom Built Bodies	With Custom Built Bodies

f. o. b. Bridgeport

LOCOMOBILE COMPANY OF AMERICA, INC.
BRIDGEPORT, CONN.

The Best Built Car in America

Locomobile

$9.35
Net Price

No. 28—Interchangeable Hex Nut Service Set. Complete in handy steel case.

A HEX NUT SET FOR SERVICING ALL CARS

THIS compact little outfit instantly provides the right socket for any nut on any make of car. Has all the popular handles and special attachments for getting into cramped quarters.

Set consists of twenty-one parts, including ten Hex sockets from 7/16 to 7/8 in. Sockets are of CHROME NICKEL Steel, electrically heat treated and hardened to withstand everyday service without breaking down. All at a price so reasonable that no fleet owner can afford to be without them.

Write today for Catalog No. 18 describing complete line of Socket Wrenches

Stevens Walden-Worcester, Inc.
Mfrs. of Walden-Worcester Wrenches and Stevens "Speed-Up" Tools
Worcester, Mass.

STEVENS-WALDEN-WORCESTER
INCORPORATED

Revised Statistical Chart
of
50 Companies
Manufacturing
AUTOMOBILES, TRUCKS, BUSES ACCESSORIES, ETC.
Copy sent free upon request

WARD, GRUVER & CO.
Members New York Stock Exchange
20 Broad St. **147 E. 86 St.**
New York

FOLLETT'S NEW MODEL TIME STAMP
accounts for every labor minute

Learn the interesting details from our descriptive data.

Prints the year, month, day, hour, minute, A.M. or P.M. at the exact moment the plunger is pressed—like this, for example:

NOV 19 1920 4 31 PM

Tells when a job is started—and when it is finished. There can be no dispute over the time charge.

Absolutely automatic — except for winding. Every machine guaranteed.

Follett Time Recording Co., 217 High Street, Newark, N. J.
"Established Since 1904"

THE FULLBACK $17.50-$18-$22

It's fifteen years now since the first New Eras were made. They're time tested, too.

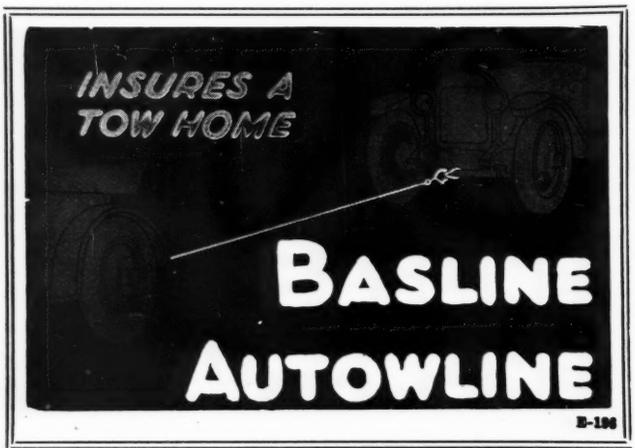
NEW ERA SPRING & SPECIALTY CO., GRAND RAPIDS., MICH.

1926-1927

As the Old Year gives way to the New Year we wish to our friends new and old, twelve months of prosperity and progress.

For ourselves, we hope that 1927 will bring even greater opportunities for service.

Bearings Company of America
Lancaster, Pa. **Detroit, Mich., Office: 1012 Ford Bldg.**



Sales and Service

go together as long as you keep your mind on service—

MOTOR AGE

5 SOUTH WABASH AVENUE
CHICAGO - - - ILL.

Did You Enjoy This Copy?

YOU can get one like it every week for only $3.00 a year—an average cost of a little less than six cents each.

Each and every man in the trade needs MOTOR AGE—needs the positive help it offers in the solution of daily problems and the valuable ideas it gathers for its readers.

Your competitor reads MOTOR AGE, and you need to read it also if you want to keep up with the leaders of the automotive field.

Here's How MOTOR AGE Will Help You

SERVICING—MOTOR AGE will show you how to make flat rates—How to sell Service—How to make customers permanent—How to organize a workshop—How to handle knotty problems—How to select Machinery—How to test electrical systems—How to make quick repairs—How to route shop work.

HIRING—How to get the right men—How to train them—How to pay them—How to get their co-operation—How to keep them enthusiastic.

BUYING—How to select an accessory stock—How to judge merchandise—How to get a fast turnover—How to avoid dead items.

SELLING—How other men do it—How to keep down overhead—How to advertise—How to make Salesmen produce—How to create a market—How to find prospects—How to make every sale pay—How to avoid losses—How to write letters that build business.

AND THEN - - - -

Whatever else you need to know to make your business run smoothly MOTOR AGE will tell you if you only ask—All personal inquiries receive personal attention from our editors. Every subscriber is encouraged to come to us with his problems, whether mechanical, legal, architectural or financial. Try us, and we will give you "Service you will like."

THE COUPON is here for your convenience. If you are already a subscriber, pass it on to some friend in the trade who is not. When he starts getting MOTOR AGE he'll appreciate the favor.

MOTOR AGE
5 South Wabash Avenue,
Chicago, Ill.

IMPORTANT — MOTOR AGE is published exclusively for the trade. Subscriptions are accepted only from those actively engaged in our field—so please don't forget to include your business card or letter head with this order.

Gentlemen: Enclosed find $3.00 to pay for a year's subscription to MOTOR AGE, including all special issues published during the life of my subscription.

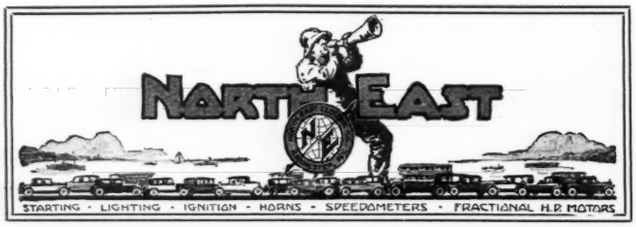
Name .....

Street and Number .....

City ..... State .....

Firm Name .....

NOTE: If you are already subscribing to MOTOR AGE, please hand this coupon to a dealer who is not. He'll become a better competitor from reading MOTOR AGE.



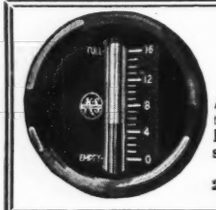
THE "BAT"
Super-Charger

A practical system of super-charging for passenger cars, trucks, tractors, marine engines, aviation engines, stationary engines, etc. Simple, easy installation. Practical. Prices range as low as $7.50.

WEBBER

Pat Oct. 12, 1926. Write for details.

P. H. Webber Company
Racine Industrial Plant, Building No. 12, Racine, Wisconsin
Manufactured and sold under license of P. J. F. Batenburg, Racine, Wis.



K-S GASOLINE Telegage

And now, a Telegage for the Ford. See our half page advertisement in the Saturday Evening Post, January 29th. Write for description and proposition to the trade.

KING-SEELEY CORPORATION
298 Second Street Ann Arbor, Michigan
Chicago Branch, 2450 Michigan Boulevard

Stops Pump Shaft Leaks and Saves the Winter Solution

Conneaut Plastic Metallic Packing molds in the fingers to fit stuffing-boxes of any size or shape. It is a repair for the worn shaft and loose bushing. At your jobbers; if not write us.

1 lb. can.....$1.75 per pound
5 lb. can.....$1.60 per pound

THE CONNEAUT PACKING CO.
Conneaut, Ohio

GATES VULCO

Fan Belts and Radiator Hose

Made By
The World's Largest Makers of Fan Belts

SIOUX

Valve Face Grinding Machine

Get a demonstration of Sioux before you buy any valve grinding machine. GUARANTEED FOR A LIFETIME.

Your Jobber Sells It

ALBERTSON & CO.
Sioux City, Ia.

Simplicity
REG. U.S. PAT. OFF.

REBORER AND GRINDER

A big money-maker in any automobile repair shop or garage. Ask for free demonstration in your own shop.

SIMPLICITY MANUFACTURING COMPANY
Port Washington Wisconsin

WESCO TIRE CHAINS

"They Stand the Gaff"

CORK SEALED PISTON RINGS

Here Is Something to Sell!

A piston ring, on the principle of a packing ring, that gives remarkable results in service, is used in thousands by automobile factory branches for replacement—and pays a profit worth while. WRITE FOR DETAILS.

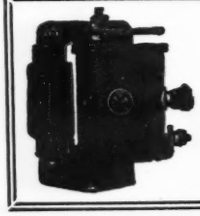
THE CORK-SEALED PISTON RING CORP.
2332 Michigan Avenue, Chicago
Factory: Denver, Colo.
Canadian Distributors: Purser, Bull & Co., Ltd.
Toronto, Canada

RADIATOR CAPS ORNAMENTS

Faith

Confidence in a product that has been produced with scrupulous attention to detail is born only of experience. Our clients know they receive only the finest in material and artistry.

FAITH MFG. CO., Inc. 2533-39 N. Ashland Ave., Chicago, Ill.

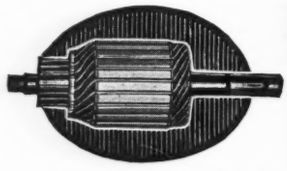


Mallory Ignition Coil

Has two primary windings instead of one. Gives a hotter spark, makes easier starting, gives more power, quicker pickup and more mileage. Try it on a sluggish motor. Write for full particulars.

The Mallory Electric Corporation
Toledo, Ohio

TIMKEN
Tapered
ROLLER BEARINGS



FREDERICKS Rewinding Service

New Rewind Profits—See announcement every 4th week. Write now for price list. The H. M. Fredericks Co., Lock Hoven, Pa.

FISK TIRES

There's a Fisk Tire of extra value in every size, for car, truck or speed wagon

The Original **Bosch**

Franchise details for selling ORIGINAL BOSCH Automotive Equipment will be sent to any Distributor, Dealer or Service Station on request.

ROBERT BOSCH MAGNETO CO., Inc.
109 West 64th Street New York, N. Y.

ORIGINAL BOSCH units bear the full name, Robert Bosch, and the trade mark shown at left. These are the identifications of Bosch quality—famous since 1887.

TASCO
Gas Gauge for FORD CHEVROLET OVERLAND and STAR

Sells Quick at $1.25 Retail. Types "K" and "J" for 1926 Chevrolets and all Stars Sell at $1.50

THE AKRON-SELLE CO.
Akron, Ohio

WIRE OR WRITE US FOR NEW OR USED
TIRES — PARTS — ACCESSORIES
IF IT'S FOR AN AUTOMOBILE WE HAVE IT!
SEE OUR NEXT DISPLAY IN MOTOR AGE, JANUARY 6
STATE AUTO PARTS CORPORATION
2011-13-15 S. State St., Chicago, Ill.

When temperature is below 60° Fahrenheit every motor that runs needs the protection of
PINES AUTOMATIC WINTERFRONT
For complete selling information write your nearest distributor or direct to
PINES WINTERFRONT CO., 422 N. Sacramento Blvd., Chicago

SO-LO JACK CO., Inc.
Attleboro Mass.
Sales Office
108 Massachusetts Ave.
Boston, Mass.

UNITED STATES Portable Electric DRILLS
Built by the oldest makers of Portable Electric Drills in the World.
Ask for Catalog 105
THE UNITED STATES ELECTRICAL TOOL CO.
Cincinnati, Ohio, U. S. A.

The Burgan Cotter Pin Extractor
Works Like Magic
It goes in anywhere, grips the cotter pin—snaps it out in a jiffy—holds it until released. You don't have to pull or twist. Just squeeze the handles. It's a great tool!
Write for prices and details
THE BURGAN CORPORATION
9 So. Clinton St. Chicago, Ill.

GENERAL MOTORS BUILDING
Broadway to 8th Ave. — NEW YORK — 57th to 58th Street
Renting & Managing Agent CUSHMAN & WAKEFIELD, INC. 50 East 42d Street New York City

LAPS
REG. U.S. PAT. OFF.
LAPS stands for Lupton Auto Parts Storage. LAPS makes the Parts Department profitable through selling display and systematic storage. A System specially designed for every make of car. Write for full information.
DAVID LUPTON'S SONS COMPANY
Sales Office—2631 Woodward Ave.—Detroit

RieNie FAN BELTS
Vee Round or Flat Type—With but twenty standard sizes you are equipped to fill any fan belt call.
DURKEE-ATWOOD CO. MINNEAPOLIS, U.S.A.

The BLOSSOM LOCK CO.
Cleveland Ohio

A COMPLETE STOCK of AUTO PARTS and ACCESSORIES
On 5-Day Money-Back Guarantee
Also Repossessed Used Cars
WRITE FOR LOW PRICES
UNITED AUTO WRECKERS
2429 S. STATE ST. Established 1916 CHICAGO

Let us send our profit-boosting plan. It's Free.

Kawneer
SOLID COPPER
STORE FRONTS
Write for Special Book—Garage Front
THE KAWNEER CO., 3724 Front St., Niles, Mich.

The Cooper CUT-OUT
ENGINE TESTER AND CARBON OUTLET VALVE
Dependable. Certain. Easily installed. A big seller all the year round.

Two Hones in One
HALL HONE $35. at your Jobber's
Solid Pressure — Spring Pressure

CLASSIFIED ADVERTISING

PATENTS & PAT. ATTORNEYS

C. L. PARKER
Ex-Examiner U. S. Patent Office
Attorney-at-Law and Solicitor of Patents
McGill Building, Washington, D. C.
Patent, Trade Mark and Copyright Law

BUSINESS OPPORTUNITIES

FOR SALE—Battery and electrical service station in a Rocky Mountain state. Place has paid over $8,000 in last three years. Will require about $3,500 cash. Box 6288, Motor Age, 5 S. Wabash Ave., Chicago, Ill.

To locate business opportunities
To sell, rent, exchange or buy
To find men or employment
THE CLASSIFIED DEPARTMENT WILL HELP YOU

BUSINESS OPPORTUNITIES

An established and growing manufacturing concern making a well known line of automobile accessories desires to interest party with capital or will consider merging with other established manufacturing company. Will bear thorough investigation. Address Box 6291, Motor Age, 5 S. Wabash Ave., Chicago, Ill.

Business success depends upon the satisfaction of business wants—hence
Classified Advertising

Announcing
Delta-Levolier
Dimming Switch

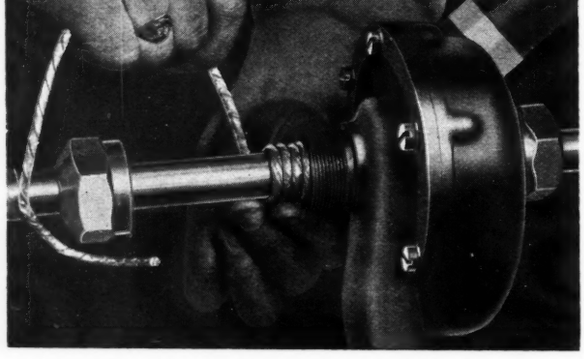
MAKES DIMMING a joy. Mounts on spoke of steering wheel near rim. No need to move either hand from wheel. Change brights to dims with a flip of the thumb. Dims headlights and turns on roadlight—or any combination you want—in the same flip. Fascinating to operate; put one in the hands of a motorist and you've made a sale. Drivers who use it consider it the handiest accessory they have on their cars. Fool proof. Reliable. Won't rattle. Fully guaranteed. An exclusive Delta product. Write for full particulars.

DELTA ELECTRIC COMPANY
903 Delta Blk., Marion, Ind.

$2.75 List
Canada $3.70

Delta-Levolier

"The Pump Packing the Motor Builders Use"



"John Crane"
Metallic

Over 40% of all cars use "John Crane". Saves shaft. Saves non-freezing mixtures. Keeps pump tight. One style for all cars. One spool packs 20 pump packing boxes.
Makes a repacking job worth more money.

Crane Packing Company
1805 Cuyler Ave., Chicago — 109 Broad St., New York

Gentlemen: Send me C. O. D.....
Garage size spools Style 112—$2.50 net.

Name .....

Address .....

Order from your jobber or send coupon.

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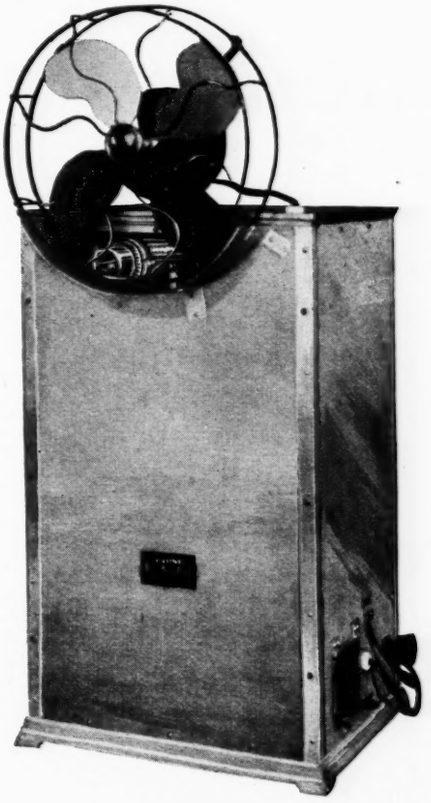
Gas Headaches Prevented
Caused by Carbon Monoxide Gas



The OZONE Pure Airifier

—removes the cause of headaches and drowsiness among workers where cars or gasoline engines are operating in-doors.

In Leading Service Stations and Factories

—the results produced in more and better labor have amply paid for its installation. Some OZONE Pure Airifier users whose names and judgment you know are: Packard, Cleveland, Chrysler, Oakland, Peerless, Studebaker, Oldsmobile, Page, Service, Jordan, etc.

"We would prefer to lose anything before we would part with our Azone machine," says Mr. Ray Eveland of the Packard Iowa Motor Company.

There's a model to fit your requirements. Write for catalogue.

Ozone Pure Airifier Company
1453-1455 W. Congress St., Chicago

ELCAR *Announces*
a new 8 for $1595
a new 6 for $1295

Stop! Re-read that headline. This is not the customary announcement of new models differing little from previous ones. These are both completely new and radically different—they are lower in price than any remotely comparable cars, and both have the greatest comfort-factor ever offered—the *Shock-less Chassis*. This one feature alone makes this announcement extraordinary—and discounts, factory co-operation, advertising support—all that goes to build success is added to the *Shock-less Chassis* to make ELCAR the money-making bet for 1927. The Shows open soon—don't wait for them—write or wire today.

ELCAR MOTOR COMPANY
Builders of Fine Vehicles Since 1873
ELKHART, INDIANA

ELCAR
WITH THE
Shock-less Chassis

The Up-to-date Motor Car

Clean Oil—Clean Air—No Dilution

Important factors which now add years to the motor car's life

Never in the history of the automobile has development been so marked and progress so swift as now.

Especially in those new devices which mean added economy and convenience to the owner, and longer life to the car, the industry is making tremendous strides.

Naturally dealers are interested to know about these new devices.

We are therefore offering free to interested dealers full information on any of the following timely subjects:

1 *Why air cleaners are used on the majority of cars, and the air cleaner's function.*

2 *Why oil filters are used on the leading makes of cars, and the oil filter's function.*

3 *The cause of and the effects of dilution and water in the crankcase.*

If you want to be fully informed on the new devices that are insuring the automobile new life, simply check the number in the coupon below which corresponds to the number of the subject on which you want information, and a bulletin will be sent you free.

AC Spark Plug Company, FLINT, *Michigan*

AC-SPHINX
Birmingham
ENGLAND

Makers of AC Spark Plugs—AC Speedometers—AC Air Cleaners—AC Oil Filters

AC-TITAN
Levallois-Perret
FRANCE

AC SPARK PLUG COMPANY, *Information Division,* **FLINT, MICHIGAN**

Gentlemen: I want to know more about the modern motor car and its improvements, and am especially interested in the subject I have checked here: ① ② ③

My Name is.....

Address.....

City.....

AC SPARK PLUGS AC SPEEDOMETERS AC AIR CLEANERS AC OIL FILTERS

A Complete Cable Department For $28.50

(West of the Rockies $32.50)

Cable Lists At $59.00

Cable on spools with the identification label remaining until the last foot has been used.

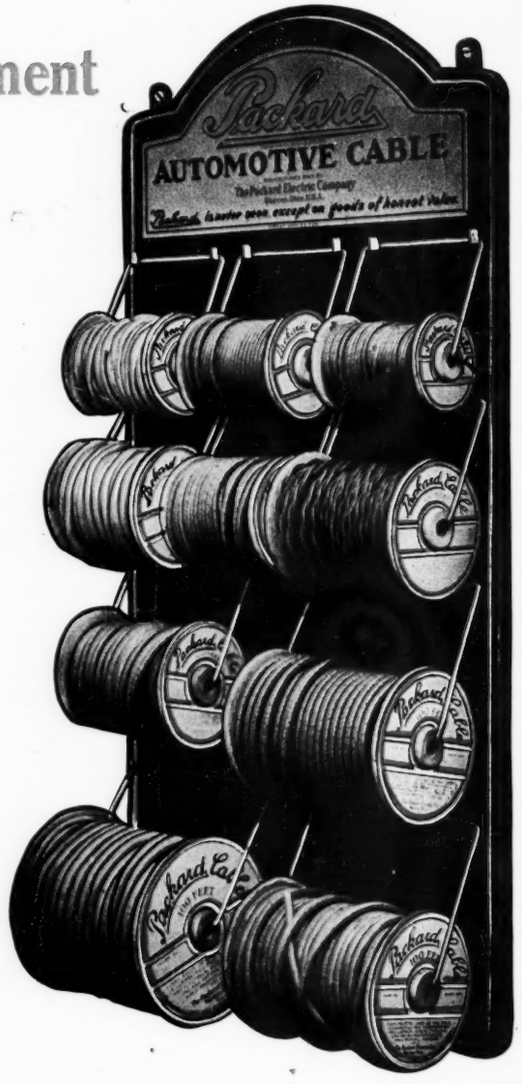
Handsome pressed steel display board accommodating ten spools of cable. Convenient to stock, easy to use, and economical of space.

A ten spool cable assortment with a complete line of sales helps including a Packard Wiring Chart which shows, by trade number, the proper cable to be used for each service on every American made car or truck.

Packard Cable has been the standard quality for the automotive industry for a quarter of a century.

Packard assortments include the following cable on 100 foot spools which will enable you to take care of any car on the road:

Tr. No. 50—16 Ga. single conductor lighting cable.
Tr. No. 52—14 Ga. single conductor lighting cable.
Tr. No. 71—16 Ga. single conductor armored lighting cable.
Tr. No. 46—14 Ga. braided low tension ignition cable.
Tr. No. 45—14 Ga. plain low tension ignition cable.
Tr. No. 44— 7 MM. braided high tension ignition cable.
Tr. No. 42— 7 MM. plain high tension ignition cable.
Tr. No. 56—10 Ga. single conductor lighting cable.
Tr. No. 113—18 Ga. two conductor spot light cord.
Tr. No. 43— 9 MM. plain high tension ignition cable.



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500 Jobbers

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